6.0 FUTURE TRAFFIC CONDITIONS

Future traffic conditions in the vicinity of the Riverside MUPDD project are comprised of two (2) components, the "No-Build" scenario and the "Build" scenario. The No-Build scenario depicts future traffic conditions that are expected to exist at the time the proposed project would be completed, but does not include traffic generated by the project. This scenario is, however, inclusive of traffic expected to be generated by other proposed developments in the area that would be built by the completion date of the MUPDD project. The Build scenario depicts future traffic conditions that are anticipated to exist on the completion date when No-Build traffic volumes are combined with the trips generated by the MUPDD project.

6.1 Traffic Volumes and Intersection Capacity (No-Build Scenario)

To forecast the potential traffic impacts that will result from development of the project, it is first necessary to determine the traffic conditions that will exist in the future when the project is expected to be completed, exclusive of traffic generated by the project. This projection of future traffic conditions is referred to as the "No-Build" scenario.

Traffic volumes for the study intersections are determined by applying an annual growth rate to existing traffic volumes and adding traffic volumes projected to be generated by other proposed developments in the area of the site. For this study, the estimated completion date for the project was estimated to be the year 2012. The annual growth rate applied was 2.04%, as determined by the New York State Department of Transportation (NYSDOT) in its *Long Island Transportation Plan 2000 (LITP 2000)* traffic model for the region encompassing the Town of Southampton and the Town of East Hampton.

A cursory assessment of the traffic growth rate was performed using automatic traffic recorder (ATR) data collected by NYSDOT over the past fifteen (15) years. The assessment showed that the traffic growth rate within the Hamlet of Riverside is slightly higher than the overall growth rate within the Town of Southampton, with a calculated rate of approximately 2.24%. As the data provided does not, however, list the month during which the data was collected, the difference may be attributable to seasonal variations within the town. For this reason, and to be consistent with other traffic studies performed in the area, the LITP 2000 annual traffic growth rate of 2.04% was applied for estimating future traffic volumes.

A records search performed revealed there was one (1) new development, the Rivercatwalk project of Catcove Corporation, proposed to be constructed in proximity to the project site by the estimated completion date. The Rivercatwalk project is a maritime planned development featuring a one hundred seven (107) room hotel, forty (40) extended-stay cottages, eight thousand square feet (8,000 sf) of non-medical offices, four thousand square feet (4,000 sf) of retail space, and a four thousand square-foot (4,000 sf) restaurant. It will be situated on an approximate 19.825 acre site located along the north side of SR 24 to the west of the Riverside MUPDD site and to the east of the Riverhead Traffic Circle. Trips generated by the proposed Rivercatwalk project and the directional distribution of the trips are presented in the Rivercatwalk Traffic Impact Study of April, 2004, prepared by RMS Engineering, P.C., and supplemented by the Environmental Impact Statement (EIS) documents subsequently prepared by Urbitran Associates, Inc.

Another project, the Southampton Enterprise Zone, was also proposed, but was to be situated on the site where the Riverside MUPDD project will be located. Elements of the Southampton Enterprise Zone have been incorporated into the Riverside MUPDD project. Trips generated by the modified enterprise zone have been included in the "Build" condition traffic analysis for the MUPDD project.

Traffic Volumes (No-Build Scenario)

Projected trips for the Rivercatwalk project were distributed among the study intersections, as prescribed in the traffic study for that project, and added to ambient traffic flows that will exist in 2012. The resulting traffic volumes are presented on Figure 6-1 through Figure 6-4.

Capacity Analysis and Levels of Service (LOS) for the No-Build Scenario

Using the methods described in Section 3.2, and in conformance with the procedures described in the *Highway Capacity Manual 2000 (HCM 2000)*, capacity analyses were performed for each of the intersections and for each peak traffic period. The No-Build capacity analysis results and levels of service are presented on Table 6-1. Capacity analysis results for individual intersections are provided in Appendix E.

6.1.1 Results of Intersection Capacity Analysis (No-Build Scenario)

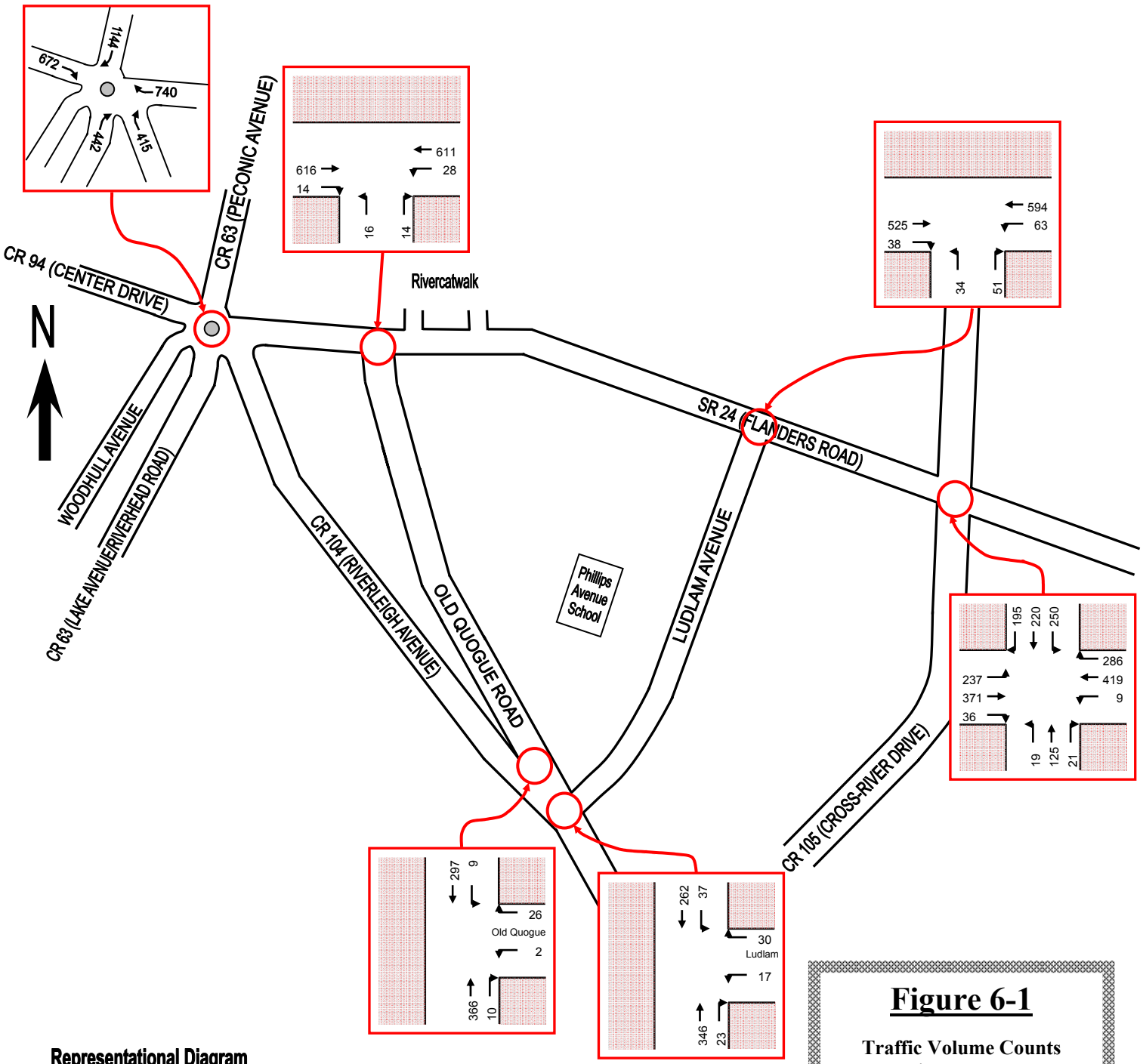
The results of the capacity analysis show that future ambient traffic volumes combined with traffic generated by the proposed Rivercatwalk development will have a significant impact on the Riverhead Traffic Circle and the un-signalized intersections along SR 24 within Riverside. Un-signalized intersections along CR 104 will, however, continue to experience acceptable levels of service.

Riverhead Traffic Circle

The few approaches to the circle that currently experience acceptable levels of service will degrade to LOS F during all peak traffic periods. The only approach that will remain above this service level, at a LOS E, is the northwest-bound CR 104 approach during the morning peak period. Excessive delays will occur on all approaches during the mid-day and evening periods on weekdays and during the mid-day Saturday peak period. Motorists on the eastbound CR 94 approach will encounter incessant delays during these periods and would likely seek alternate routes as a result. The need for mitigation will rise from its existing "necessary" state to "critically necessary."

TRAFFIC VOLUME COUNTS

Riverside M.U.P.D.D. 2012 No-Build Conditions



Representational Diagram
Not To Scale
Alignment May Be Altered

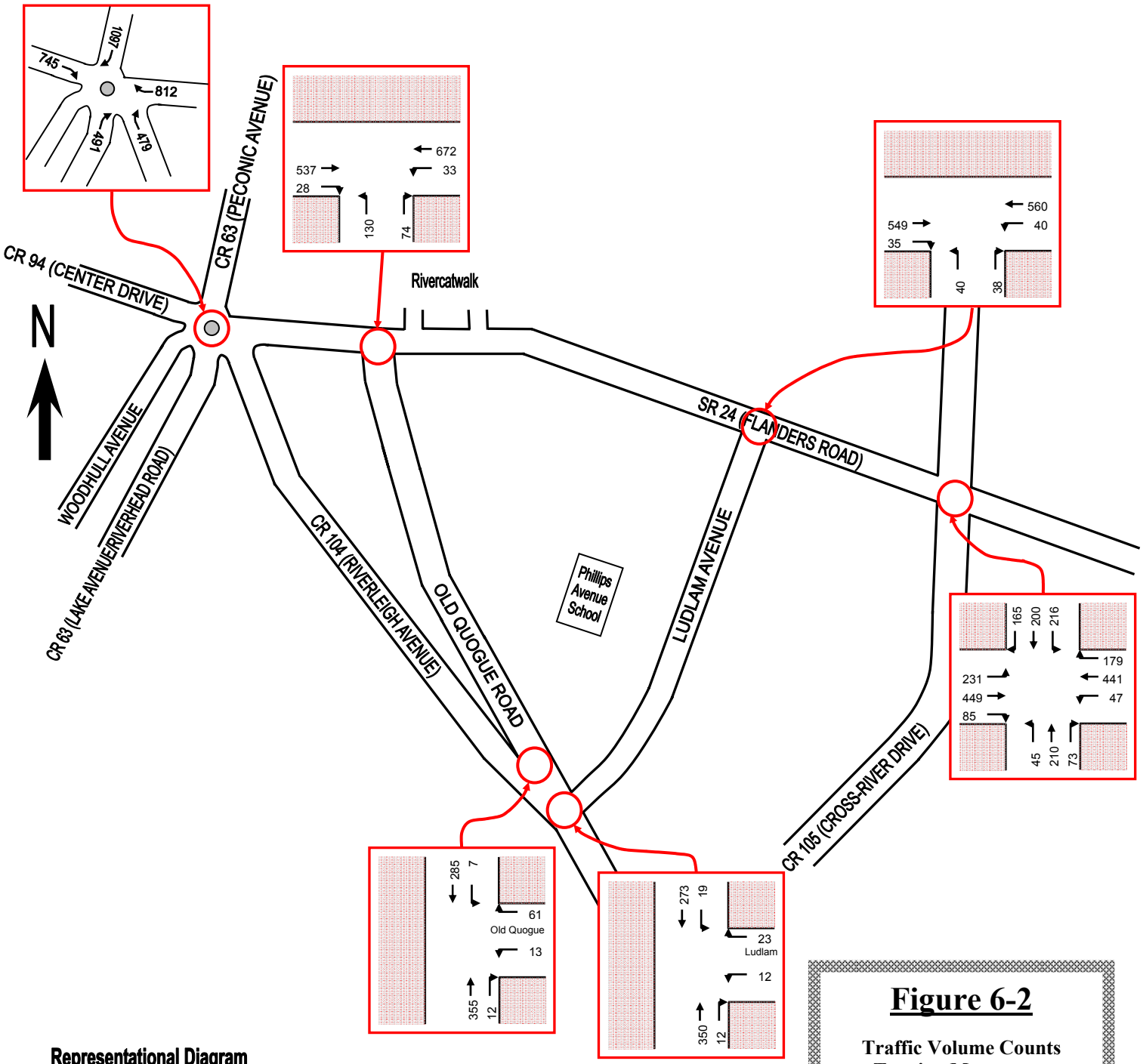
Figure 6-1

Traffic Volume Counts
Turning Movements

No-Build Conditions
AM Peak Period

TRAFFIC VOLUME COUNTS

Riverside M.U.P.D.D. 2012 No-Build Conditions



Representational Diagram
Not To Scale
Alignment May Be Altered

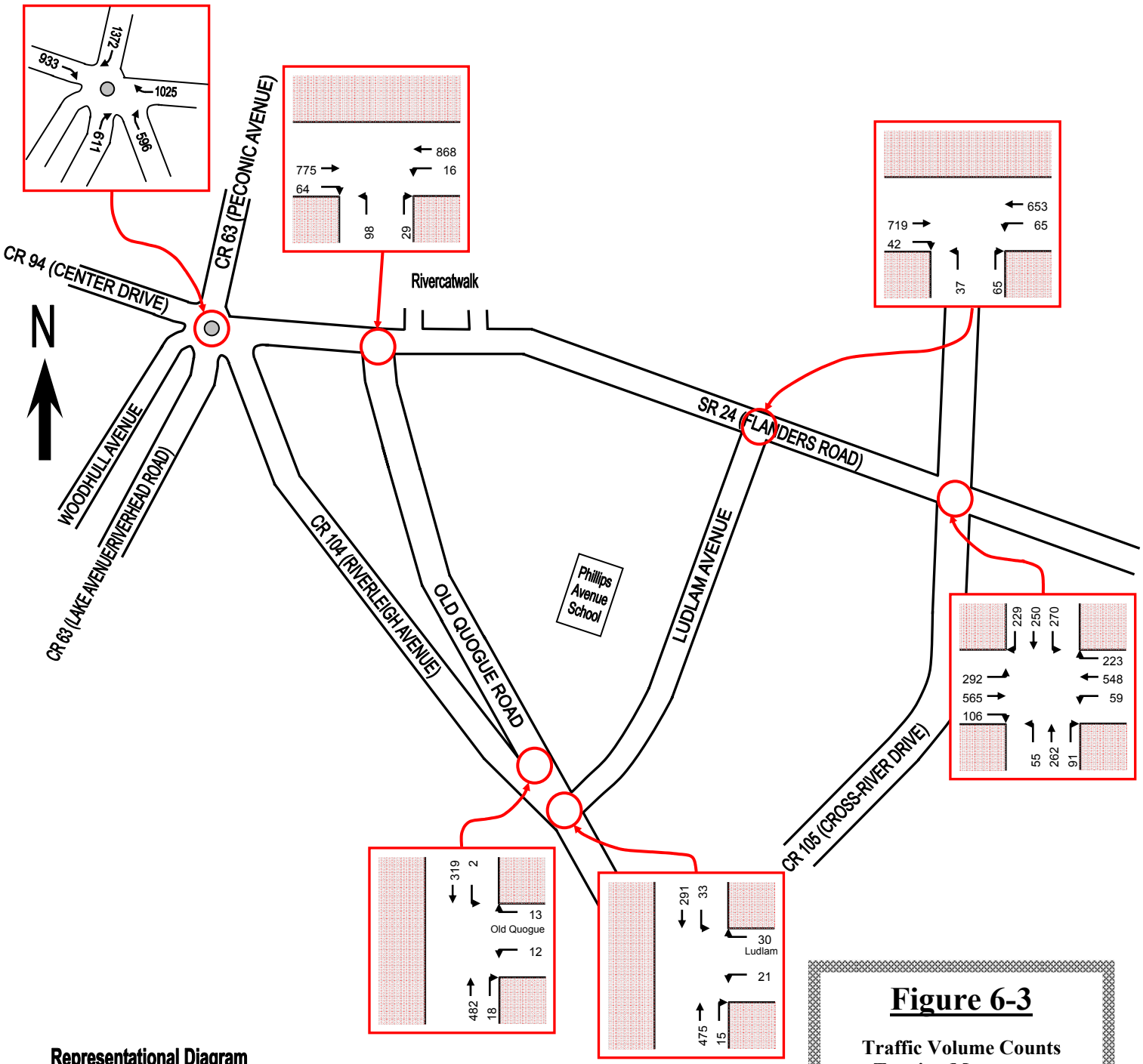
Figure 6-2

Traffic Volume Counts
Turning Movements

No-Build Conditions
Mid-Day Peak Period

TRAFFIC VOLUME COUNTS

Riverside M.U.P.D.D. 2012 No-Build Conditions



Representational Diagram
Not To Scale
Alignment May Be Altered

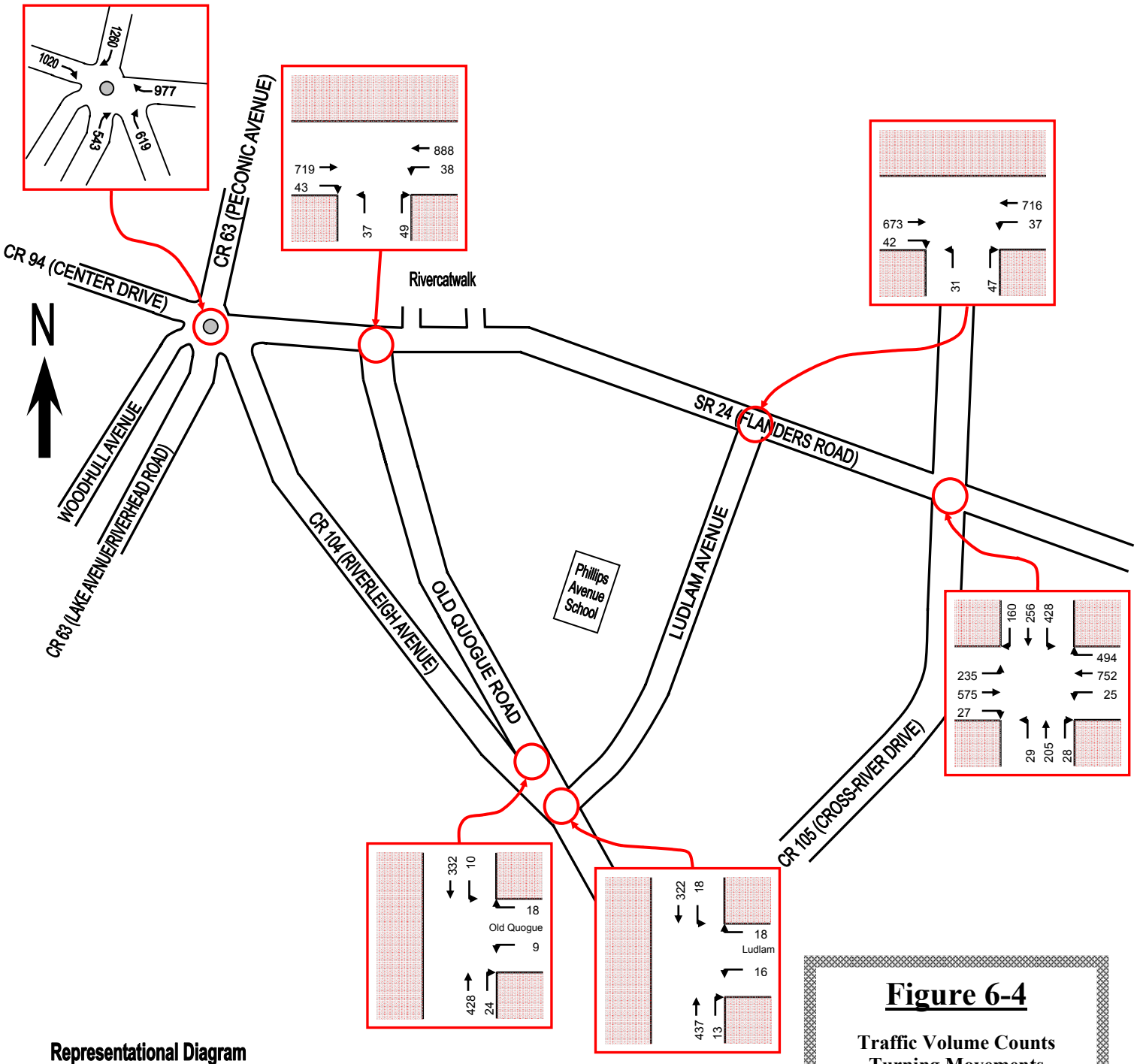
Figure 6-3

Traffic Volume Counts
Turning Movements

No-Build Conditions
PM Peak Period

TRAFFIC VOLUME COUNTS

Riverside M.U.P.D.D. 2012 No-Build Conditions



Representational Diagram
Not To Scale
Alignment May Be Altered

Figure 6-4

Traffic Volume Counts
Turning Movements

No-Build Conditions
SAT MID Peak Period

TABLE 6-1: NO-BUILD INTERSECTIONAL LEVELS OF SERVICE

Riverside MUPDD

Intersection	Control	Movement / Approach	Weekday AM Peak Hour				Weekday Midday Peak Hour				Weekday PM Peak Hour				Saturday Midday Peak Hour			
			Overall	LOS	Delay	v/c	Overall	LOS	Delay	v/c	Overall	LOS	Delay	v/c	Overall	LOS	Delay	v/c
Riverhead Traffic Circle (SR 24, CR 94, CR 104, CR 63, & Peconic Avenue Intersection)	Roundabout Stop Signs	NB CR 63	F	F	83.6	1.03	F	F	445.0	1.84	F	F	1690.9	4.29	F	F	1505.1	3.80
		NWB CR 104		E	70.5	0.97		F	1280.2	3.55		F	2130.9	4.52		F	1796.3	4.23
		WB SR 24		F	142.6	1.25		F	350.0	1.72		F	1059.5	3.27		F	1350.0	3.88
		SB Peconic		F	234.7	1.49		F	294.3	1.62		F	750.7	2.63		F	1075.8	3.33
		EB CR 94		F	82.6	1.11		F	6632.9	15.71		F	11242.3	25.94		F	16220.4	36.96
SR 24 (Flanders Road) at CR 105 (Cross River Drive)	Traffic Signal	EB-L	C	C	23.7	0.69	C	C	29.2	0.77	C	E	69.8	1.00	C	D	44.6	0.80
		EB-T		B	17.4	0.47		B	18.7	0.56		C	21.8	0.69		B	14.2	0.55
		EB-R		B	13.6	0.04		B	14.1	0.12		B	14.3	0.14		A	9.4	0.03
		WB-L		C	20.2	0.03		C	21.4	0.16		C	23.2	0.31		B	17.0	0.08
		WB-T		C	29.2	0.69		C	31.0	0.74		D	40.4	0.87		D	41.7	0.91
		WB-R		C	23.8	0.43		C	22.2	0.27		C	22.9	0.34		C	24.4	0.62
		NB-L		B	19.0	0.06		B	19.3	0.10		B	19.4	0.13		C	32.1	0.11
		NB-T		C	24.6	0.16		C	25.1	0.22		C	25.5	0.26		D	39.8	0.37
		NB-R		C	23.9	0.06		C	24.8	0.17		C	25.2	0.21		D	37.8	0.11
		SB-L		B	18.4	0.33		B	18.5	0.34		B	18.9	0.41		D	41.2	0.74
		SB-T		C	22.8	0.20		C	22.8	0.19		C	23.1	0.23		D	36.5	0.34
		SB-R		C	24.2	0.34		C	24.3	0.34		C	25.2	0.43		D	37.7	0.41
SR 24 (Flanders Road) at Ludlam Avenue	Side Street Stop Sign	WB-L	D	A	9.2	0.08	C	A	9.0	0.04	E	B	10.0	0.09	D	A	9.4	0.05
		NB-LR		D	28.2	0.38		C	23.1	0.30		E	38.5	0.54		D	28.9	0.34
SR 24 (Flanders Road) at Old Quogue Road	Side Street Stop Sign	WB-L	C	A	9.1	0.04	F	A	8.9	0.04	F	A	9.7	0.02	F	A	10.0	0.05
		NB-LR		C	24.6	0.15		F	242.7	1.35		F	360.9	1.54		F	55.5	0.59
CR 104 (Riverleigh Avenue) at Ludlam Avenue	Side Street Stop Sign	SB-L	B	A	8.3	0.03	B	A	8.1	0.02	C	A	8.5	0.04	B	A	8.3	0.02
		WB-LR		B	13.2	0.1		B	12.2	0.07		C	15.0	0.09		B	13.7	0.06
CR 104 (Riverleigh Avenue) at Old Quogue Road	Side Street Stop Sign	SB-L	B	A	8.2	0.01	B	A	8.1	0.01	B	A	8.4	0.00	B	A	8.3	0.01
		SWB-L		B	14.7	0.01		B	14.8	0.07		C	18.1	0.05		C	15.8	0.03
		SWB-R		B	11.9	0.09		B	11.8	0.2		B	11.5	0.03		B	11.3	0.04

LOS = Level of Service
Delay = Delay in Seconds/Vehicle
v/c = Demand Flow (Volume) to Capacity Ratio
NB = Northbound, SB = Southbound
EB = Eastbound, WB = Westbound

L=Left
T=Through
R=Right

State Route 24 at Old Quogue Road

The intersection will incur serious diminishments in operational function during the weekday mid-day and evening periods and during the Saturday mid-day period. These periods will each drop to a LOS F, indicating significant delays for motorists attempting to make left-turns from northbound Old Quogue Road. The conditions are attributable to insufficient gaps in the SR 24 traffic flows that would allow the increased number of left turns to occur. The only peak period that will remain the same as currently exists is the weekday morning period, which will continue to operate at an acceptable LOS C. Mitigation will be required to resolve the traffic problems and resultant delays at the intersection.

State Route 24 at Ludlam Avenue

The intersection will experience reduced levels of service during the weekday morning and evening periods and during the Saturday mid-day period. Only the evening period, at LOS E, will sustain a service decline of concern. The intersection will operate at an acceptable LOS D during the other two periods and will continue to operate at its current LOS C during the weekday mid-day period. Motorists will be subjected to increased delays, but mitigation measures, while desirable, will not be mandatory. It is likely that motorists would modify their driving habits to adjust to the conditions.

State Route 24 at County Road 105

The intersection will continue to operate at a LOS C during all time periods. While motorists will encounter moderate delays, conditions will be no different than those that presently exist. No changes to the signal operation or intersection design will be necessary.

County Road 104 at Ludlam Avenue

The overall level of service during the weekday evening peak traffic period will diminish from its current LOS B to a LOS C. While still an acceptable level of service indicating only moderate delays, it will be more difficult for motorists to make left-turns from Ludlam Avenue onto CR 104. Levels of service will remain at a good LOS B for the other periods, indicating low-to-moderate delays when turning from Ludlam Avenue.

County Road 104 at Old Quogue Road

The intersection will maintain its current operational levels at a good LOS B during all peak traffic periods. No remedial actions or intersection modifications will be necessary.

6.2 Trip Generation and Distributed Trips (Build Scenario)

Future traffic impacts on study intersections resulting from development of the proposed Riverside MUPDD project are dependent on the number of vehicular trips generated by the development and the directions in which the vehicles approach the intersections. The accuracy of measuring the traffic impacts is reliant on the ability to accurately gauge the number of trips that will be generated and properly assign their directional approaches at the intersections.

6.2.1 Trip Generation (Build Scenario)

The number of trips projected to be generated by the Riverside MUPDD project was determined using the rates provided in the Institute of Transportation Engineers' *Trip Generation Manual (7^{th} Edition)*. The trip generation calculations are shown on Table 6-2.

The *Trip Generation Manual* provides rates of vehicular generation for a number of different land uses during the morning and evening peak traffic periods on a weekday and during the peak period of site-generated traffic on a Saturday. It provides these rates for several different variables, such as gross floor area square footage, number of housing units, and number of employees, to name a few. It also supplies the percentages for deriving the number of trips entering a site and the number of trips exiting the site.

TABLE 6-2: TRIP GENERATION

Riverside MUPDD Proposed Action

BLOCK I

BLDG. #	FLOOR	USE TYPE	# OF DWELL. UNITS	APPROX. GROSS FLOOR AREA	ITE LAND USE CODE	VARIABLE USED TO ASSESS TRIPS	AM				MIDDAY				PM				SATURDAY MIDDAY			
							# ENTER	% ENTER	# EXIT	% EXIT	# ENTER	% ENTER	# EXIT	% EXIT	# ENTER	% ENTER	# EXIT	% EXIT	# ENTER	% ENTER	# EXIT	% EXIT
1	1st	COMMERCIAL/OFFICE		8,000	814	GFA Sq. Ft.	15	48%	17	52%	8	50%	8	50%	9	44%	12	56%	15	50%	15	50%
	2nd	OFFICE		8,000	710	GFA Sq. Ft.	16	88%	2	12%	11	54%	9	46%	4	17%	20	83%	2	54%	2	46%
2	1st	COMMERCIAL/OFFICE		7,500	814	GFA Sq. Ft.	14	48%	16	52%	8	50%	8	50%	9	44%	11	56%	14	50%	14	50%
	2nd	RESIDENTIAL	5	7,000	220	Dwell. Units	1	20%	3	80%	3	50%	2	50%	3	65%	2	35%	3	50%	2	50%
3	1st	COMMERCIAL/OFFICE		6,000	814	GFA Sq. Ft.	12	48%	12	52%	6	50%	6	50%	7	44%	9	56%	11	50%	11	50%
	2nd	RESIDENTIAL	5	6,000	220	Dwell. Units	1	20%	3	80%	2	50%	2	50%	3	65%	2	35%	2	50%	2	50%
4	1st	COMMERCIAL/OFFICE		4,000	814	GFA Sq. Ft.	8	48%	8	52%	4	50%	4	50%	5	44%	6	56%	8	50%	8	50%
	2nd	RESIDENTIAL	3	4,000	220	Dwell. Units	0	20%	1	80%	1	50%	1	50%	2	65%	1	35%	2	50%	2	50%
5	1st	COMMERCIAL		12,500	814	GFA Sq. Ft.	24	48%	26	52%	13	50%	13	50%	14	44%	18	56%	24	50%	24	50%
	2nd	OFFICE		12,500	710	GFA Sq. Ft.	25	88%	3	12%	16	54%	14	46%	6	17%	32	83%	3	54%	2	46%
	3rd	RESIDENTIAL	5	6,000	220	Dwell. Units	1	20%	2	80%	2	50%	2	50%	4	65%	2	35%	2	50%	2	50%
6	1st	COMMERCIAL		8,000	814	GFA Sq. Ft.	15	48%	17	52%	8	50%	8	50%	9	44%	12	56%	15	50%	15	50%
	2nd	RESIDENTIAL	6	8,000	220	Dwell. Units	1	20%	3	80%	3	50%	3	50%	4	65%	3	35%	4	50%	3	50%
7	1st	COMMERCIAL - RECRECREATION / COMMUNITY CENTER		13,000	495	GFA Sq. Ft.	13	61%	8	39%	8	49%	9	51%	6	29%	15	71%	8	49%	9	51%
	2nd	OFFICE		8,000	710	GFA Sq. Ft.	16	88%	2	12%	11	54%	9	46%	4	17%	20	83%	2	54%	2	46%
8	1st	COMMERCIAL/OFFICE		7,000	814	GFA Sq. Ft.	13	48%	14	52%	7	50%	7	50%	8	44%	10	56%	13	50%	13	50%
	2nd	OFFICE		7,000	710	GFA Sq. Ft.	14	88%	2	12%	9	54%	8	46%	4	17%	18	83%	2	54%	1	46%
9	1st	COLLEGE AND RADIO TOWERS		5,500	170	GFA Sq. Ft.	4	90%	0	10%	1	50%	1	50%	0	15%	4	85%	0	50%	0	50%
10	1st	COMMERCIAL		14,000	814	GFA Sq. Ft.	27	48%	29	52%	15	50%	15	50%	16	44%	20	56%	26	50%	26	50%
	2nd	RESIDENTIAL - SENIOR	6	8,000	252	Dwell. Units	0	45%	1	55%	0	50%	1	50%	0	61%	0	39%	1	50%	0	50%
11	1st	COMMERCIAL		5,500	814	GFA Sq. Ft.	11	48%	11	52%	6	50%	6	50%	6	44%	8	56%	10	50%	10	50%
	2nd	RESIDENTIAL	4	5,500	220	Dwell. Units	0	20%	2	80%	2	50%	2	50%	3	65%	1	35%	2	50%	2	50%
12	1st	COMMERCIAL		2,500	814	GFA Sq. Ft.	5	48%	5	52%	3	50%	3	50%	3	44%	4	56%	5	50%	5	50%
	2nd	RESIDENTIAL	2	2,500	220	Dwell. Units	0	20%	1	80%	1	50%	1	50%	2	65%	1	35%	1	50%	1	50%
13	1st	COMMERCIAL - INDOOR RECREATION - BOWLING		20,000	437	GFA Sq. Ft.	38	60%	25	40%	22	39%	35	61%	25	35%	46	65%	18	39%	30	61%
	2nd	COMMERCIAL/OFFICE		10,000	814	GFA Sq. Ft.	19	48%	21	52%	10	50%	10	50%	12	44%	15	56%	19	50%	19	50%
14	1st	COMMERCIAL/OFFICE		4,000	814	GFA Sq. Ft.	8	48%	8	52%	4	50%	4	50%	5	44%	6	56%	8	50%	8	50%
	2nd	RESIDENTIAL - SENIOR	3	4,000	252	Dwell. Units	0	45%	0	55%	0	50%	0	50%	0	61%	1	39%	1	50%	1	50%
15	1st	COMMERCIAL/OFFICE		4,000	814	GFA Sq. Ft.	8	48%	8	52%	4	50%	4	50%	5	44%	6	56%	8	50%	8	50%
	2nd	RESIDENTIAL	3	4,000	220	Dwell. Units	0	20%	1	80%	1	50%	1	50%	2	65%	1	35%	1	50%	2	50%
16	1st	BANK		7,000	911	GFA Sq. Ft.	16	56%	12	44%	93	50%	93	50%	116	50%	116	50%	17	51%	17	49%
17	1st	COMMERCIAL/OFFICE		5,500	814	GFA Sq. Ft.	11	48%	11	52%	6	50%	6	50%	6	44%	8	56%	10	50%	10	50%
	2nd	OFFICE		5,500	710	GFA Sq. Ft.	11	88%	1	12%	7	54%	6	46%	3	17%	14	83%	1	54%	1	46%
						BLOCK I TOTAL	**347**	**56%**	**275**	**44%**	**295**	**49%**	**301**	**51%**	**305**	**41%**	**444**	**59%**	**258**	**49%**	**267**	**51%**

Commercail as used in this table represents those uses listed in section 330-33.D.(3) and (5) as identified as permitted or special exception uses in the VB zoning district.

Office as used in this table represents those uses listed in section 330-33.D.(4) as identified as permitted or special exception uses in the VB zoning district.

TABLE 6-2: TRIP GENERATION (Cont'd.)

Riverside MUPDD Proposed Action

BLOCK II

BLDG. #	FLOOR	UNIT TYPE	# OF DWELL. UNITS	APPROX. GROSS FLOOR AREA	ITE LAND USE CODE	VARIABLE USED TO ASSESS TRIPS	AM				MIDDAY				PM				SATURDAY MIDDAY			
							# ENTER	% ENTER	# EXIT	% EXIT	# ENTER	% ENTER	# EXIT	% EXIT	# ENTER	% ENTER	# EXIT	% EXIT	# ENTER	% ENTER	# EXIT	% EXIT
1	1st	RES. - APARTMENTS	12	12,500	221	Dwell. Units	2	21%	6	79%	3	54%	3	46%	5	65%	3	35%	4	54%	5	46%
	2nd	RES. - APARTMENTS	12	12,500	221	Dwell. Units	2	21%	6	79%	3	54%	3	46%	5	65%	3	35%	4	54%	5	46%
2	1st	RES. - APARTMENTS	5	7,200	221	Dwell. Units	0	21%	3	79%	2	54%	2	46%	3	65%	1	35%	2	54%	2	46%
	2nd	RES. - APARTMENTS	5	7,200	221	Dwell. Units	0	21%	2	79%	2	54%	2	46%	3	65%	1	35%	2	54%	1	46%
3	1st	RES. - SNR. APARTMENTS	6	8,000	252	Dwell. Units	0	45%	0	55%	0	50%	0	50%	1	61%	0	39%	1	50%	1	50%
	2nd	RES. - APARTMENTS	6	8,000	221	Dwell. Units	1	21%	3	79%	2	54%	2	46%	3	65%	2	35%	3	54%	2	46%
4	1st	RES. - SNR. TOWNHOUSES	3	8,000	252	Dwell. Units	1	45%	0	55%	0	50%	0	50%	0	61%	0	39%	1	50%	0	50%
	2nd	RES. - TOWNHOUSE	3	8,000	230	Dwell. Units	0	17%	2	83%	1	50%	1	50%	1	64%	1	36%	0	54%	1	46%
5	1st	RES. - SNR. APARTMENTS	6	8,000	252	Dwell. Units	0	45%	0	55%	1	50%	0	50%	1	61%	0	39%	0	50%	1	50%
	2nd	RES. - APARTMENTS	6	8,000	221	Dwell. Units	1	21%	3	79%	2	54%	1	46%	3	65%	2	35%	3	54%	2	46%
6	1st 2nd	RES. - TOWNHOUSES	6	16,000	230	Dwell. Units	1	17%	5	83%	2	50%	2	50%	4	64%	2	36%	2	54%	1	46%
						BLOCK II TOTAL	**8**	**21%**	**30**	**79%**	**18**	**53%**	**16**	**47%**	**29**	**66%**	**15**	**34%**	**22**	**51%**	**21**	**49%**

* 20% of all units required to be senior housing units pursuant to Chapter 216

* 30% of all units required to be community benefit units pursuant to Chapter 216

BLOCK IIA

BLDG. #	FLOOR	UNIT TYPE	# OF DWELL. UNITS	APPROX. LAND AREA	ITE LAND USE CODE	VARIABLE USED TO ASSESS TRIPS	AM				MIDDAY				PM				SATURDAY MIDDAY			
							# ENTER	% ENTER	# EXIT	% EXIT	# ENTER	% ENTER	# EXIT	% EXIT	# ENTER	% ENTER	# EXIT	% EXIT	# ENTER	% ENTER	# EXIT	% EXIT
NA	NA	SINGLE-FAMILY HOUSES	24	6.2 acres	210	Dwell. Units	**7**	**25%**	**19**	**75%**	**12**	**50%**	**12**	**50%**	**19**	**63%**	**11**	**37%**	**17**	**54%**	**15**	**46%**

BLOCK III

NA	NA	INDUSTRIAL PARK/ ENTERPRISE ZONE	NA	19.3 acres	130	Acreage	**150**	**83%**	**31**	**17%**	**78**	**50%**	**77**	**50%**	**41**	**21%**	**154**	**79%**	**29**	**32%**	**62**	**68%**
		BLOCKS I, II, IIA, & III TOTALS					512	59%	355	41%	403	50%	406	50%	394	39%	624	61%	326	47%	365	53%

Block I: Hamlet Center Area (Village-Type Business District)

Block II: Residential Attached Apartments & Townhouses

Block IIA: Residential Detached Single-Family & Two-Family Houses

Block III: Employment Center Area - Light Industrial & Non-Manufacturing Enterprise Zone

As the *Trip Generation Manual* does not provide rates for the mid-day peak period on a weekday, the number of trips generated was calculated using eighty percent (80%) of the weekday evening trip rates. The percentage was generally determined by comparing the traffic volumes on the surrounding roadway network during the mid-day peak period to the traffic volumes that exist during the evening peak period.

The components comprising the various types of development that will generate trips within the MUPDD project area were determined from the descriptions provided in the *Riverside Hamlet Center Mixed Use Planned Development District Proposed §330-248.O. Zoning Regulations* report of August, 2006, prepared by KPC Planning Services, Inc. From this report, the corresponding *Trip Generation Manual* land uses were assigned as follows:

Quantity	Unit	ITE Land Use Code	ITE Land Use Type
19.3	Acres	130	Industrial Park
5,500	GFA Sq. Ft.	170	Utilities
24	Dwelling Units	210	Single-Family Detached Housing
33	Dwelling Units	220	Apartment
46	Dwelling Units	221	Low-Rise Apartment
9	Dwelling Units	230	Residential Condominium/Townhouse
24	Dwelling Units	252	Senior Adult Housing – Attached
20,000	GFA Sq. Ft.	437	Bowling Alley
13,000	GFA Sq. Ft.	495	Recreational Community Center
41,000	GFA Sq. Ft.	710	General Office Building
98,500	GFA Sq. Ft.	814	Specialty Retail Center
7,000	GFA Sq. Ft.	911	Walk-In Bank

The number of dwelling units for the Single-Family Detached Housing (Land Use Code 210) were based on the specifications for Block IIa stated in the *Riverside Hamlet Center MUPDD Proposed §330-248.O. Zoning Regulations* report that the maximum density shall be four (4) units per acre. The number of Senior Adult Housing – Attached units (Land Use Code 252) within Block II were determined based on the regulation in Chapter 216 of the zoning code requiring twenty percent (20%) of all units to be senior housing. Expanded descriptions of the Land Use Codes and the trip generation rates are presented in Appendix G.

Pass-By Trips

Of the trips generated by the Riverside MUPDD project, not all will be new trips. Some will be generated from within future No-Build traffic flows. These are known as "pass-by trips."

The concept of pass-by trips is that there are motorists traveling to other destinations who would divert their trips to enter the site. Since their vehicles have already been included in traffic volumes, it would be inappropriate to add their vehicles again as new trips. The result, known as the "pass-by trip credit," creates a reduction in the overall number of trips added to calculate Build condition traffic volumes. This credit does not affect turning movements, but reduces the volumes of through movements on the roadway passing the site. The credit is reflected on the Build Traffic Volume diagrams and in the capacity analyses.

For the Riverside MUPDD project, it was determined that twenty-five percent (25%) of the trips generated by the retail businesses and the bank would be pass-by trips. This equated to between thirteen percent (13%) and twenty-one percent (21%) of overall trips generated for each peak period. Accordingly, a conservative estimate of pass-by trips was determined to be fifteen percent (15%) of trips generated for each peak traffic period. This pass-by trip credit was applied consistently to Build volumes for all intersections along SR 24. No credits were applied to intersections along CR 104, however, as traffic traveling to and from the site via this roadway are likely to be new trips.

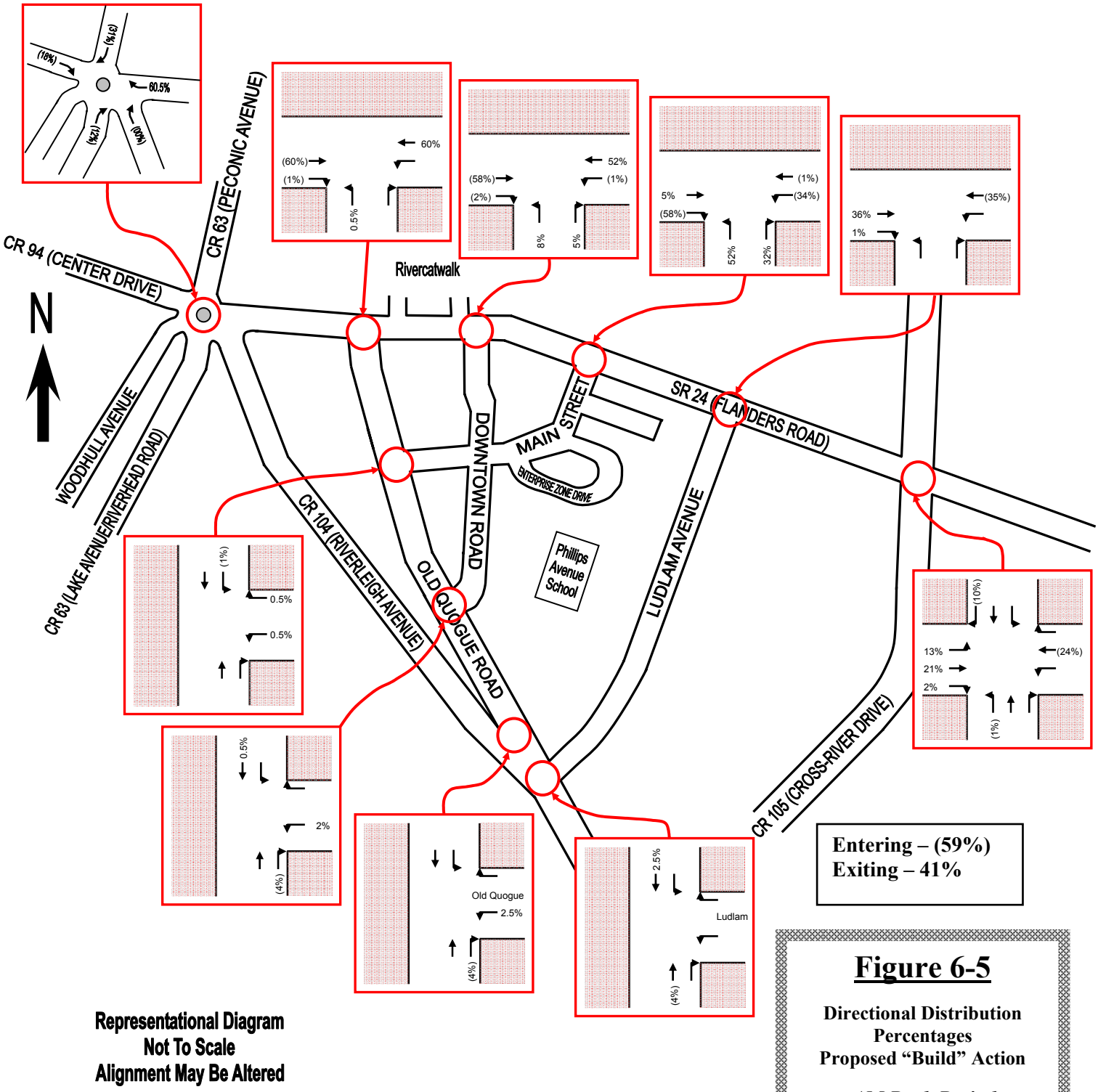
6.2.2 Directional Distribution (Build Scenario)

Projected trips were subsequently distributed among the intersections that were included within the context of the study. The method for distributing the trips is based on a combination of proportional distributions of existing traffic flows on the roadways, turning movement percentages on the approaches to the intersections, known traffic patterns for the types of land uses associated with the projected trips, and Long Island Power Authority (LIPA) population statistics. The distributions are, however, more heavily weighted toward the proportional distributions of existing traffic flows on the roadways and turning movement percentages on the approaches to the intersections. The distributions are shown on Figure 6-5 through Figure 6-8a. The number of trips added to each approach of the study intersections is presented on Figure 6-9 through Figure 6-12a. Proportional distributions of existing traffic flows are presented in Appendix D.

Development of the Riverside MUPDD project will create several new roadways, of which the primary ones will be: (1) Main Street; (2) Downtown Road; and (3) Enterprise Zone Drive. It will also create several new intersections, with the primary ones being: (1) SR 24 at Main Street; (2) SR 24 at Downtown Road; (3) Old Quogue Road at Main Street; and (4) Old Quogue Road at Downtown Road. Of these, the critical intersections will be SR 24 at Main Street and SR 24 at Downtown Road. These intersections are most likely to generate impacts on the roadway system and, in turn, be impacted by traffic flows that will exist on the roadway system in the future.

DIRECTIONAL DISTRIBUTION

Riverside M.U.P.D.D. Proposed Action



Entering – (59%)
Exiting – 41%

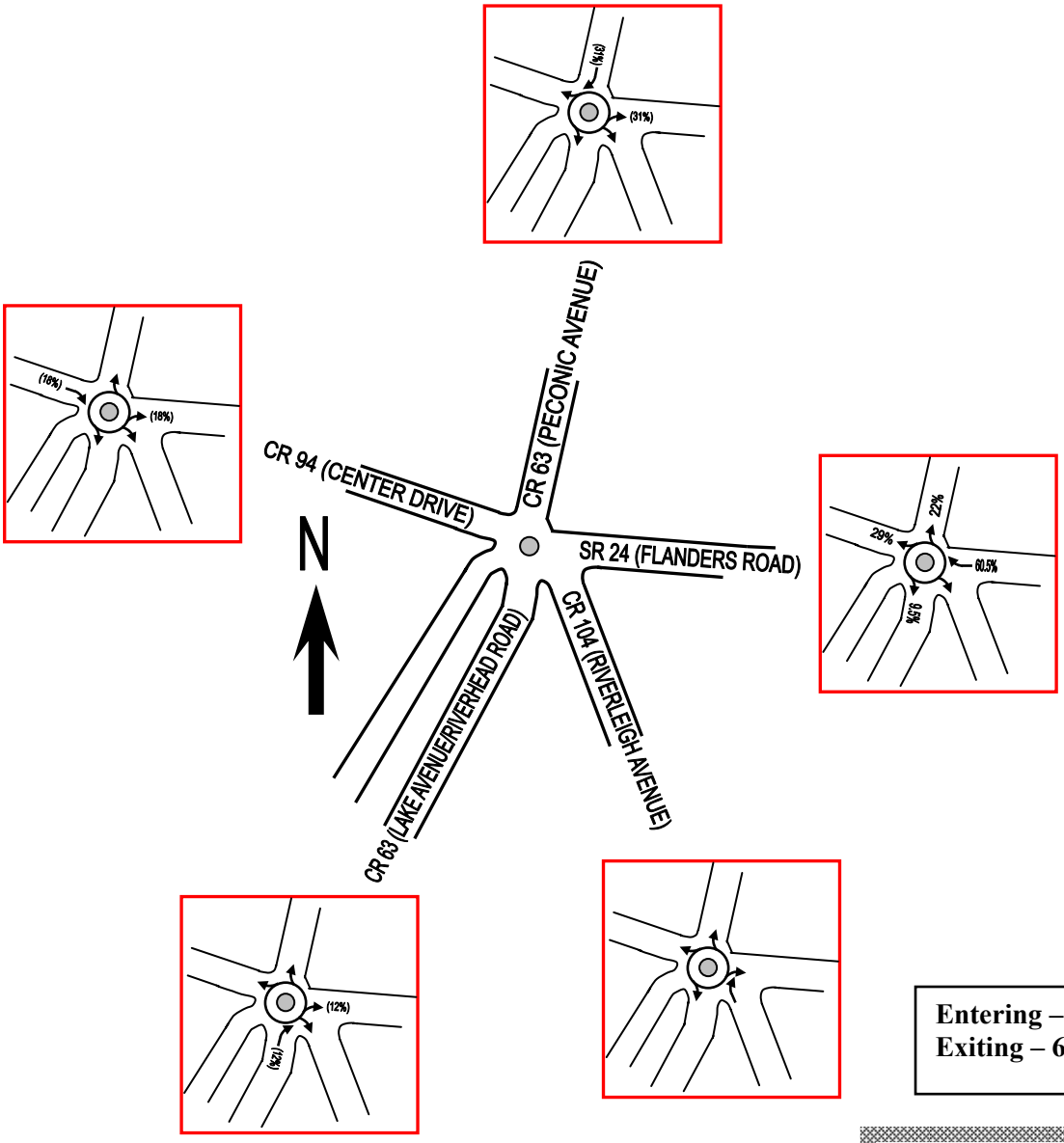
Figure 6-5

Directional Distribution Percentages
Proposed "Build" Action

AM Peak Period

DIRECTIONAL DISTRIBUTION

Riverside M.U.P.D.D. Proposed Action
Traffic Circle Movements



Entering – (61%)
Exiting – 60.5%

Representational Diagram
Not To Scale
Alignment May Be Altered

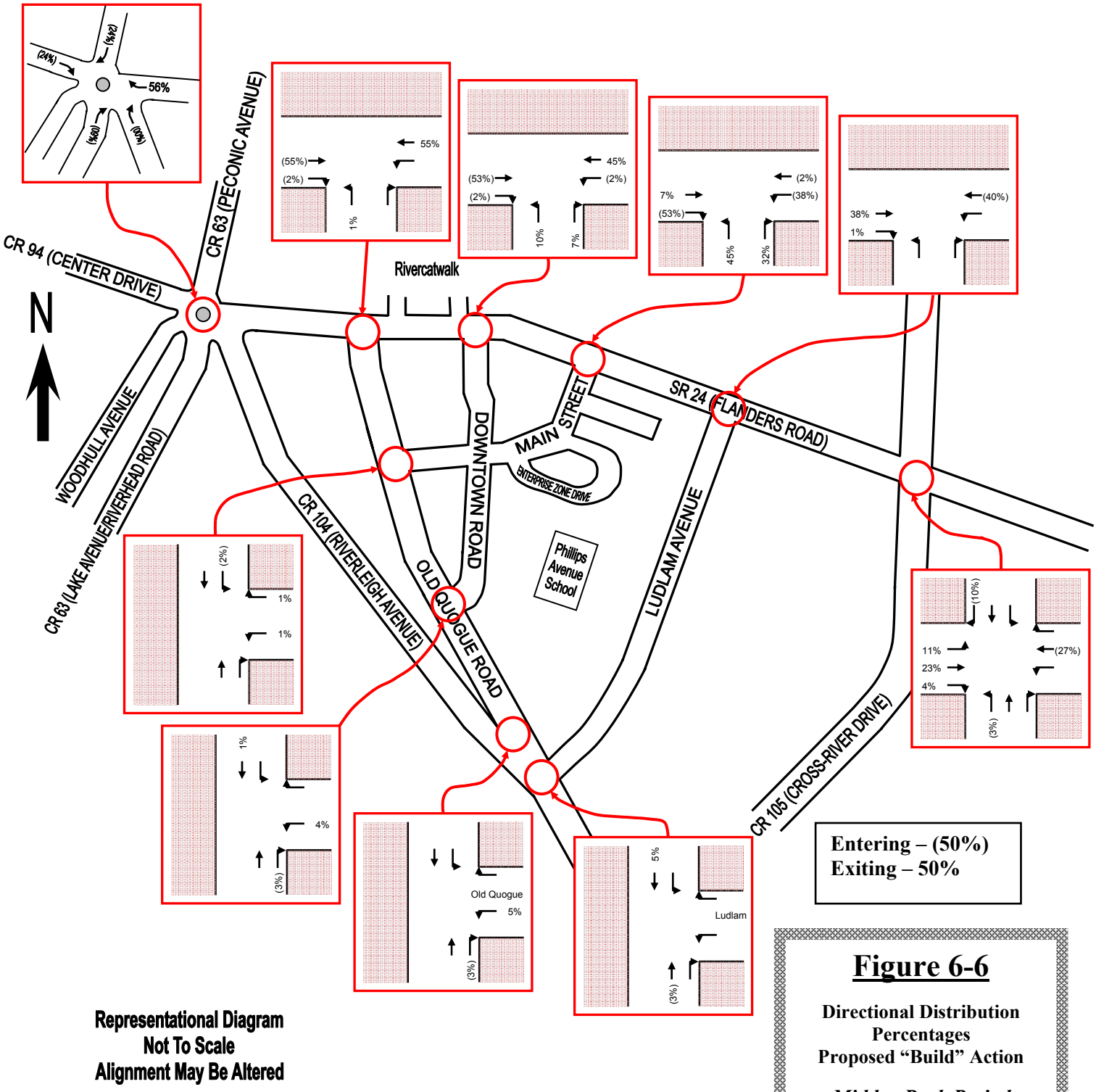
Figure 6-5a

Directional Distribution Percentages
Proposed "Build" Action

AM Peak Period

DIRECTIONAL DISTRIBUTION

Riverside M.U.P.D.D. Proposed Action



Entering – (50%)
Exiting – 50%

Representational Diagram
Not To Scale
Alignment May Be Altered

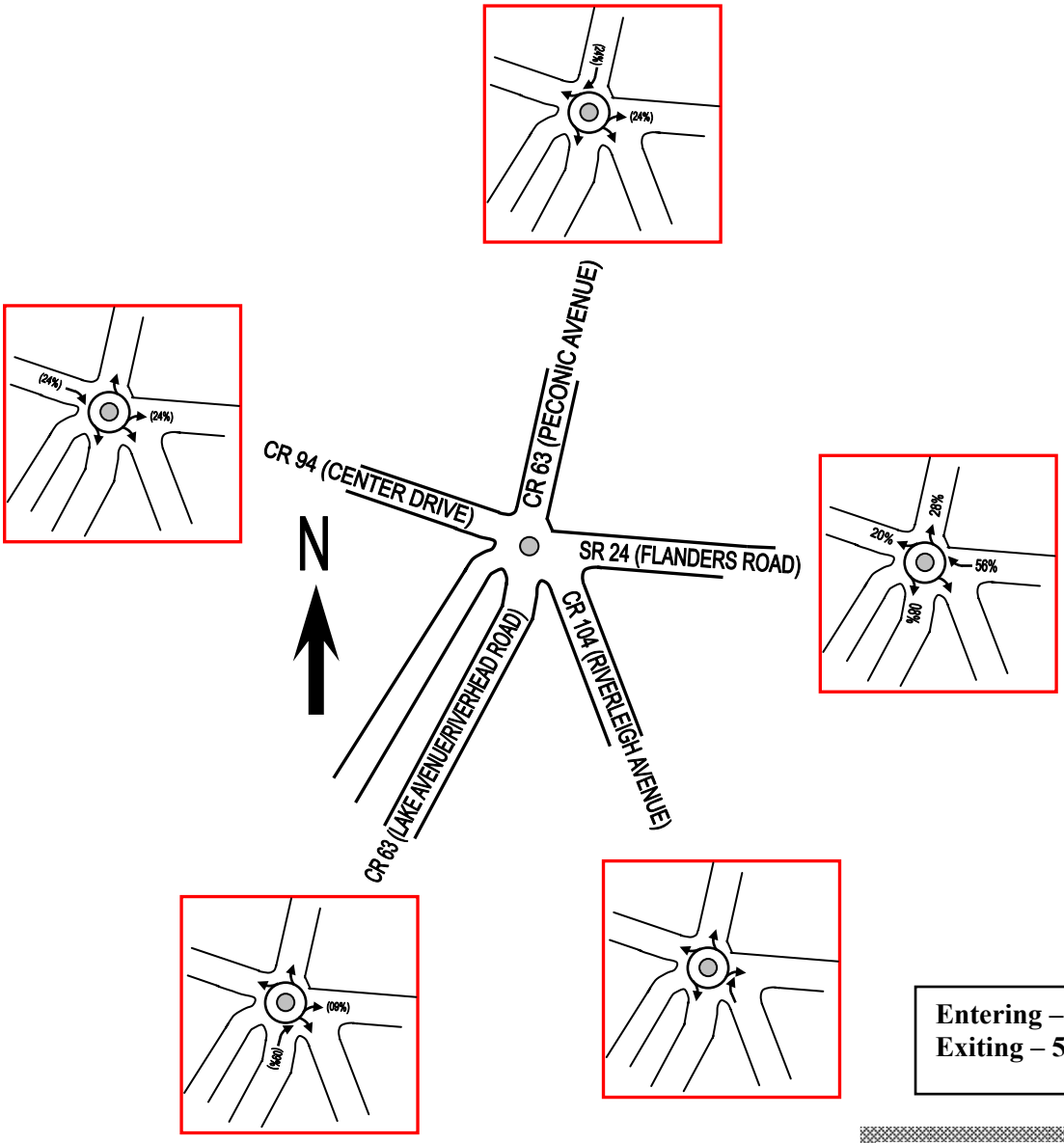
Figure 6-6

Directional Distribution Percentages
Proposed "Build" Action

Midday Peak Period

DIRECTIONAL DISTRIBUTION

Riverside M.U.P.D.D. Proposed Action
Traffic Circle Movements



Entering – (57%)
Exiting – 56%

Representational Diagram
Not To Scale
Alignment May Be Altered

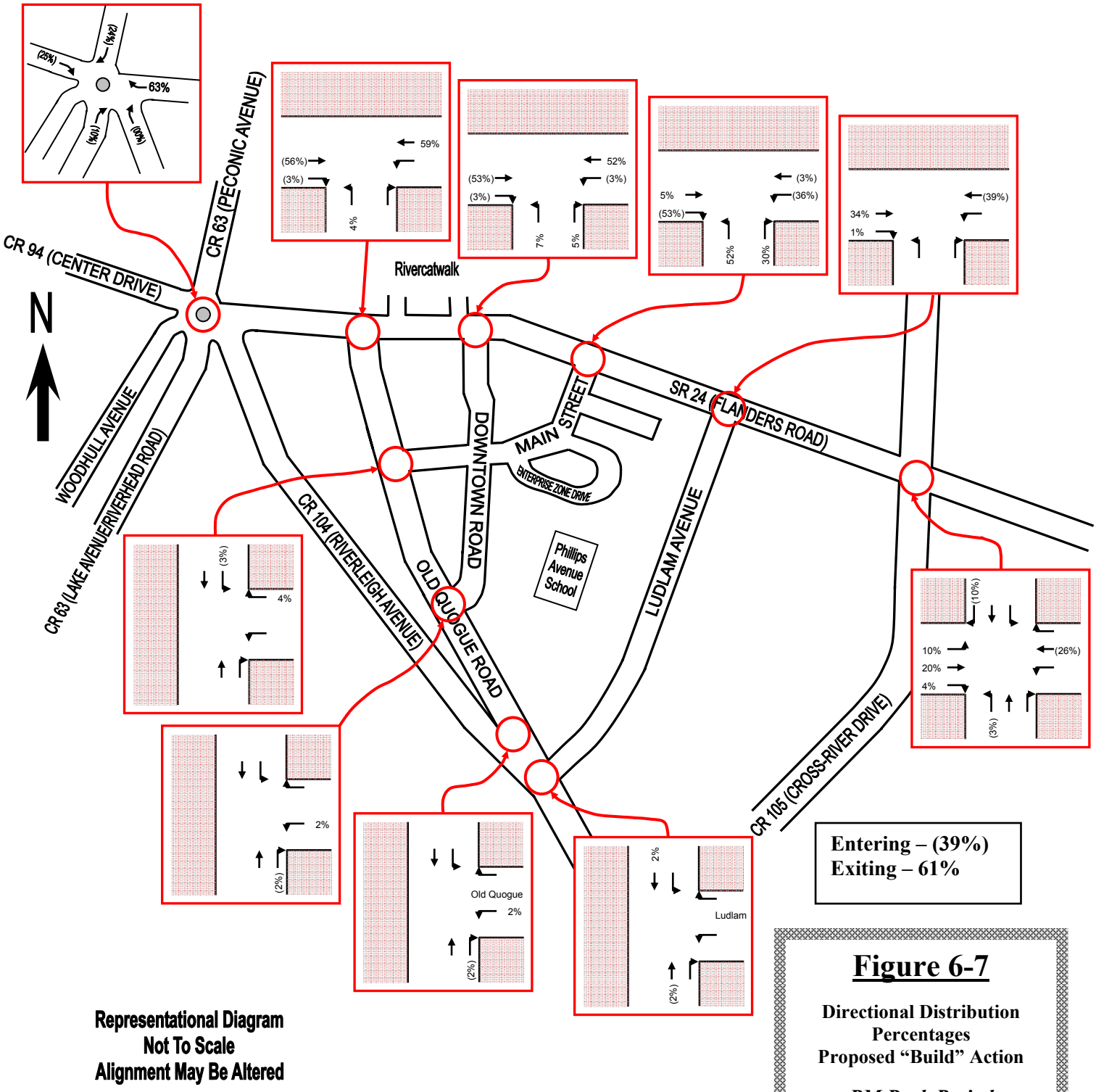
Figure 6-6a

Directional Distribution Percentages
Proposed "Build" Action

Midday Peak Period

DIRECTIONAL DISTRIBUTION

Riverside M.U.P.D.D. Proposed Action



Entering – (39%)
Exiting – 61%

Representational Diagram
Not To Scale
Alignment May Be Altered

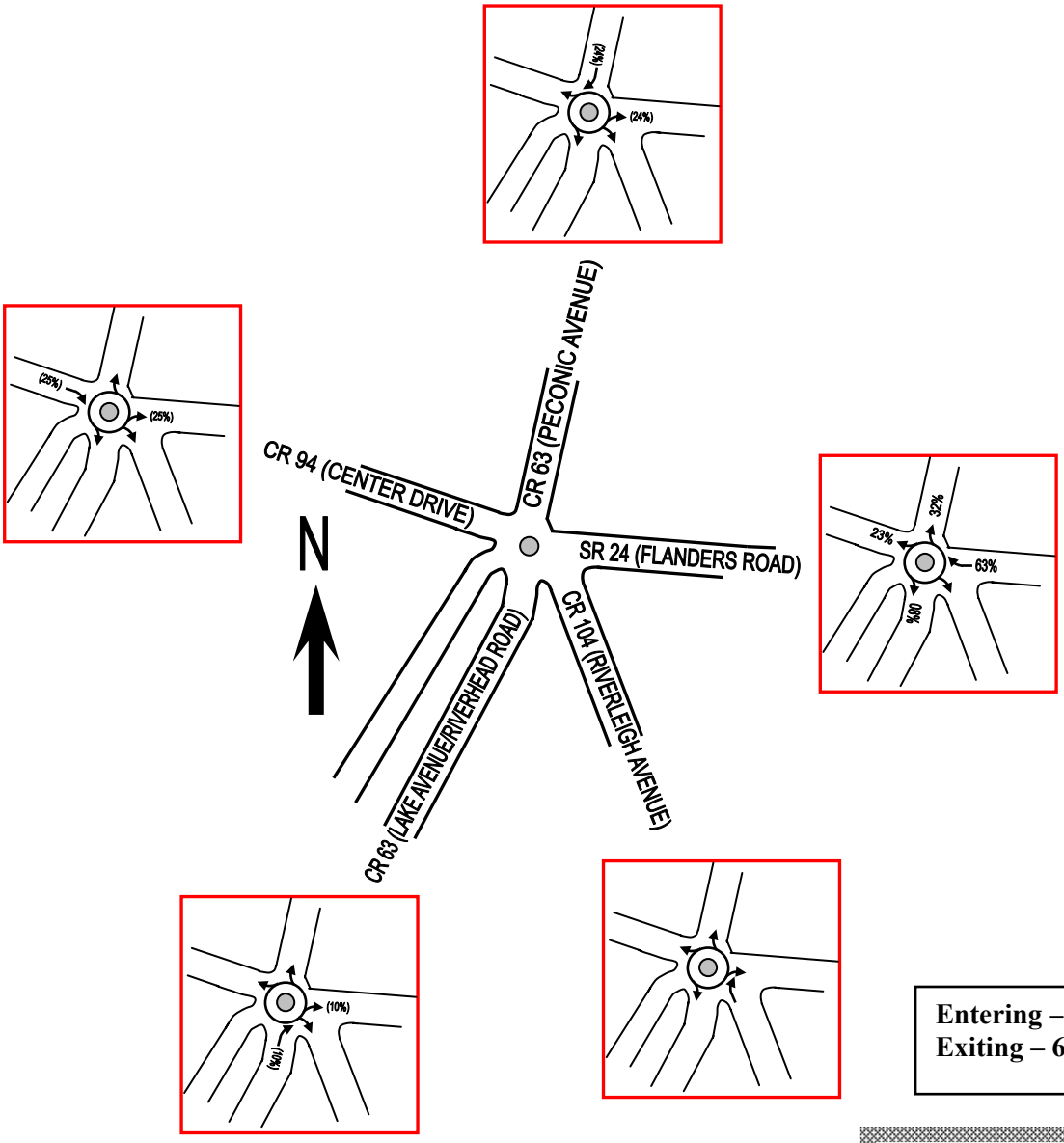
Figure 6-7

Directional Distribution Percentages
Proposed "Build" Action

PM Peak Period

DIRECTIONAL DISTRIBUTION

Riverside M.U.P.D.D. Proposed Action
Traffic Circle Movements



Entering – (59%)
Exiting – 63%

Representational Diagram
Not To Scale
Alignment May Be Altered

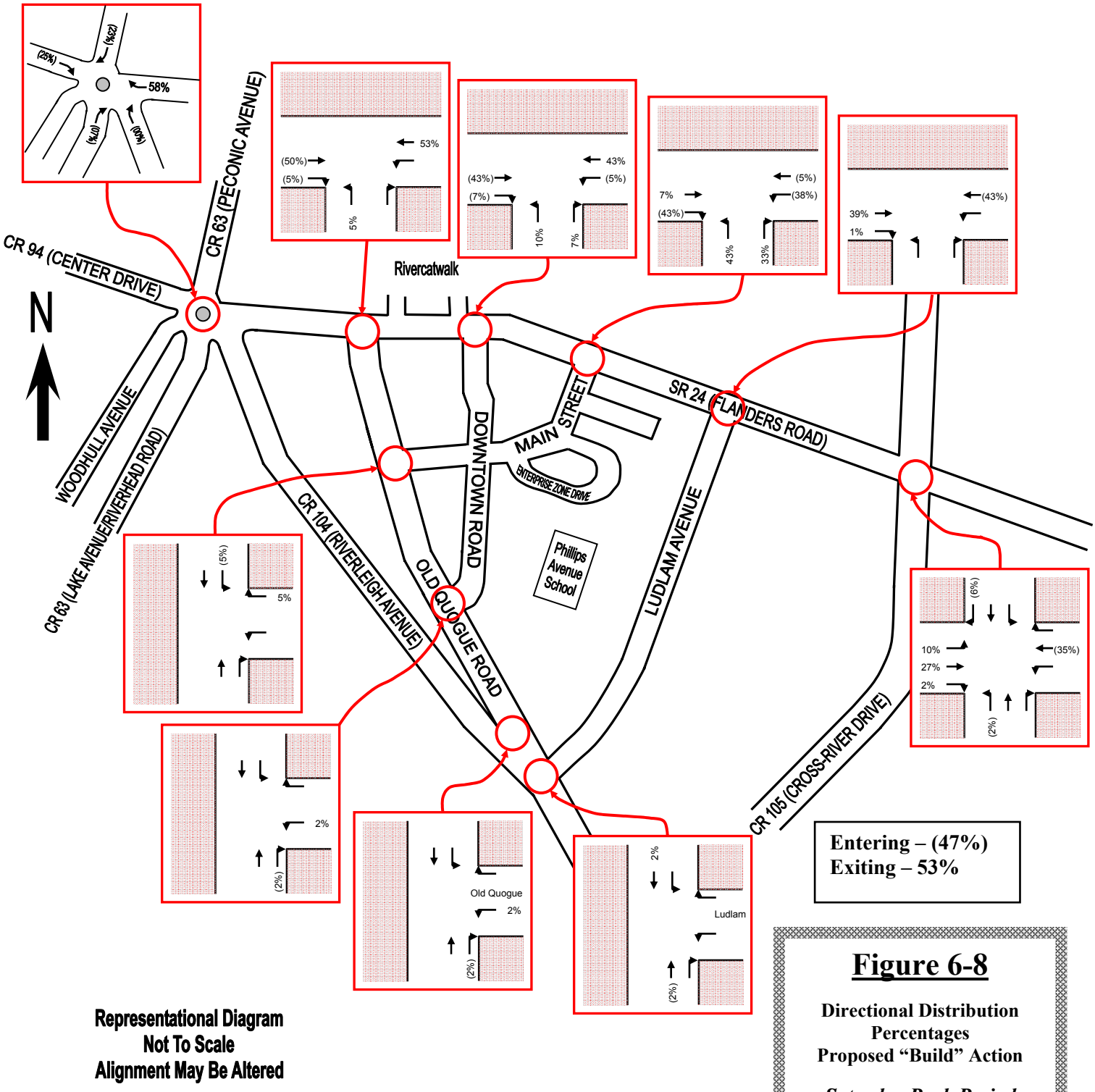
Figure 6-7a

Directional Distribution Percentages
Proposed "Build" Action

PM Peak Period

DIRECTIONAL DISTRIBUTION

Riverside M.U.P.D.D. Proposed Action



Entering – (47%)
Exiting – 53%

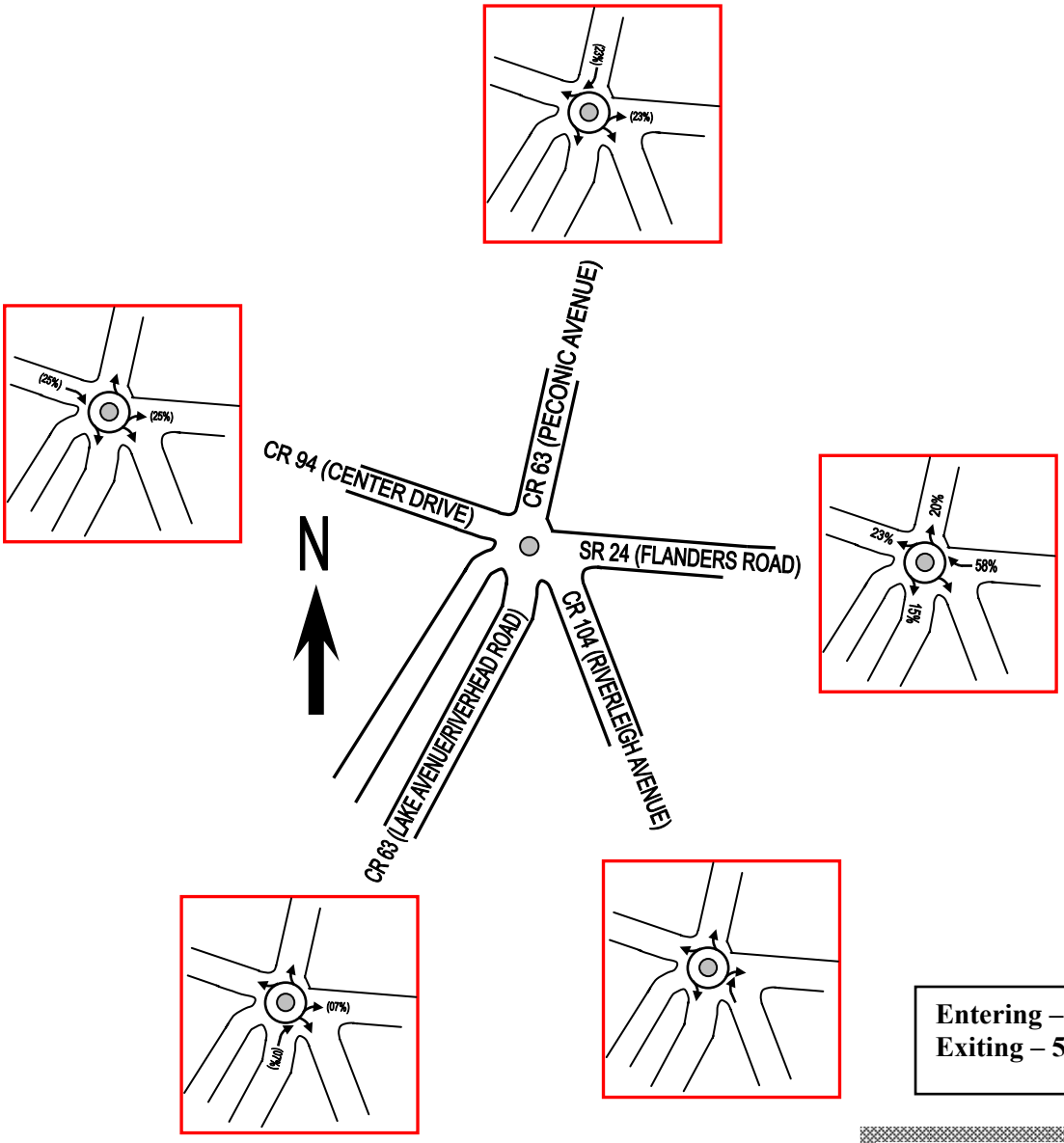
Figure 6-8

Directional Distribution Percentages
Proposed "Build" Action

Saturday Peak Period

DIRECTIONAL DISTRIBUTION

Riverside M.U.P.D.D. Proposed Action
Traffic Circle Movements



Entering – (55%)
Exiting – 58%

Representational Diagram
Not To Scale
Alignment May Be Altered

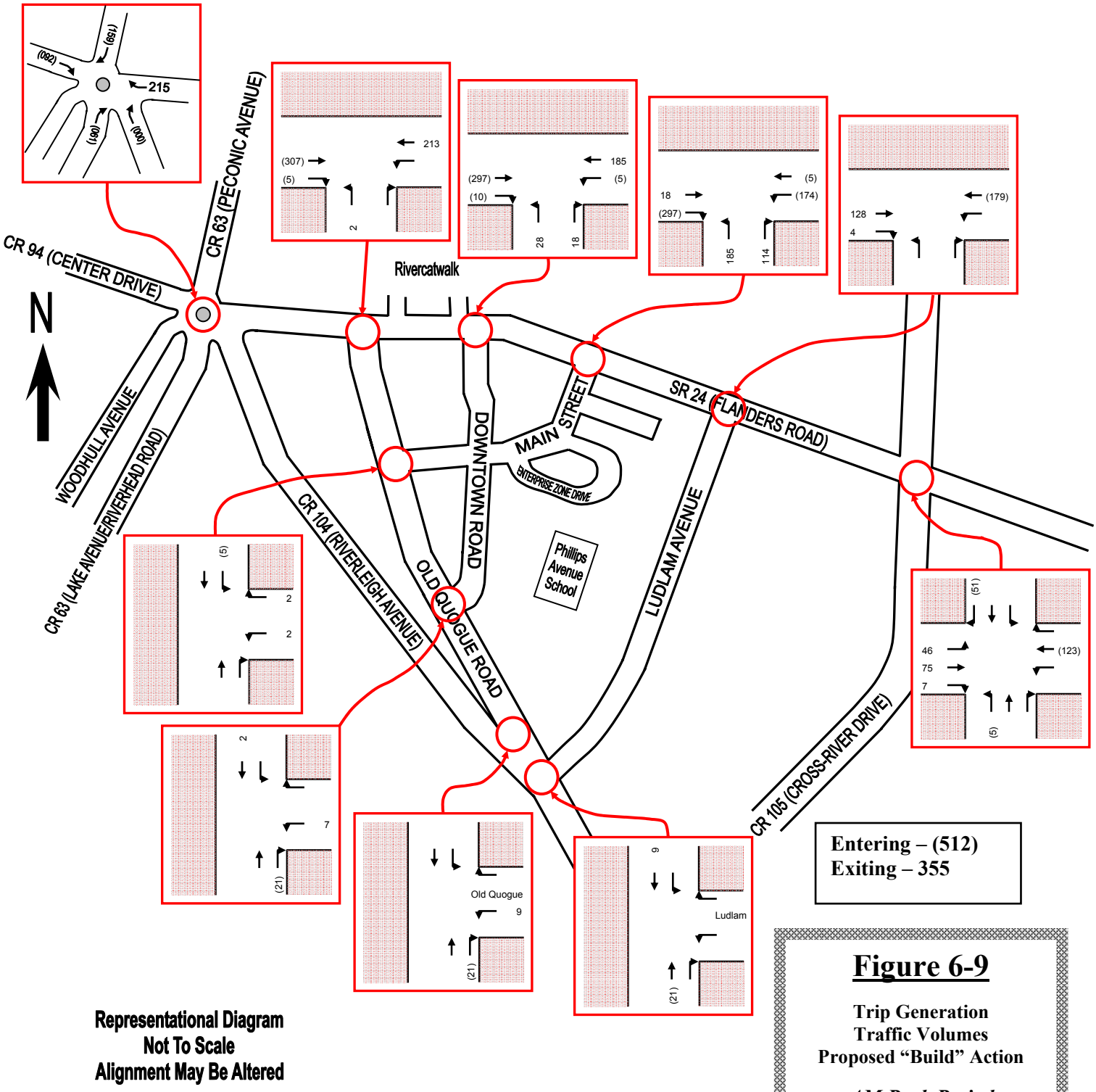
Figure 6-8a

Directional Distribution Percentages
Proposed "Build" Action

Saturday Peak Period

TRIP GENERATION TRAFFIC VOLUMES

Riverside M.U.P.D.D. Proposed Action



Entering – (512)
Exiting – 355

Representational Diagram
Not To Scale
Alignment May Be Altered

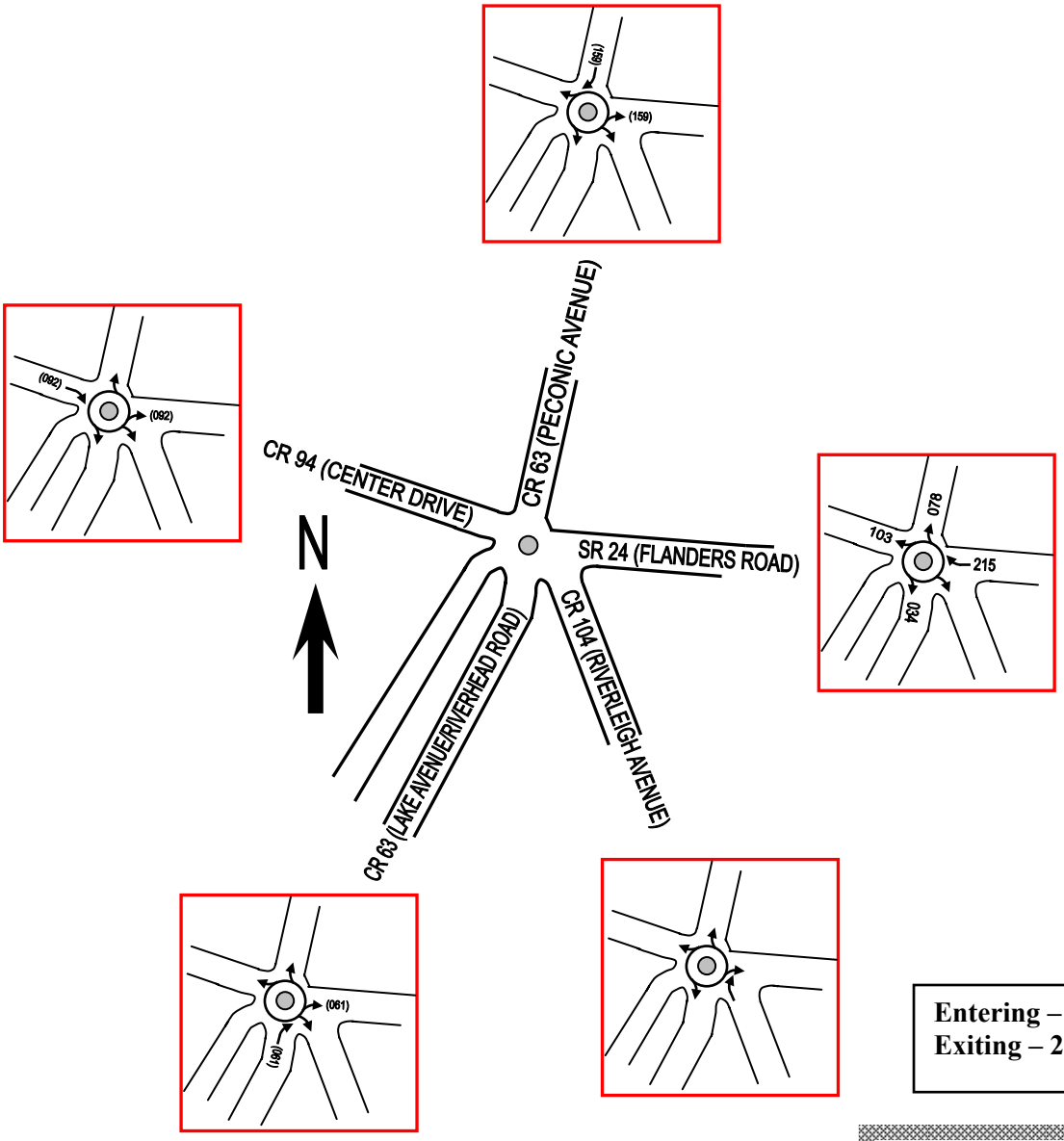
Figure 6-9

Trip Generation
Traffic Volumes
Proposed "Build" Action

AM Peak Period

TRIP GENERATION TRAFFIC VOLUMES

Riverside M.U.P.D.D. Proposed Action
Traffic Circle Movements



Entering – (312)
Exiting – 215

Representational Diagram
Not To Scale
Alignment May Be Altered

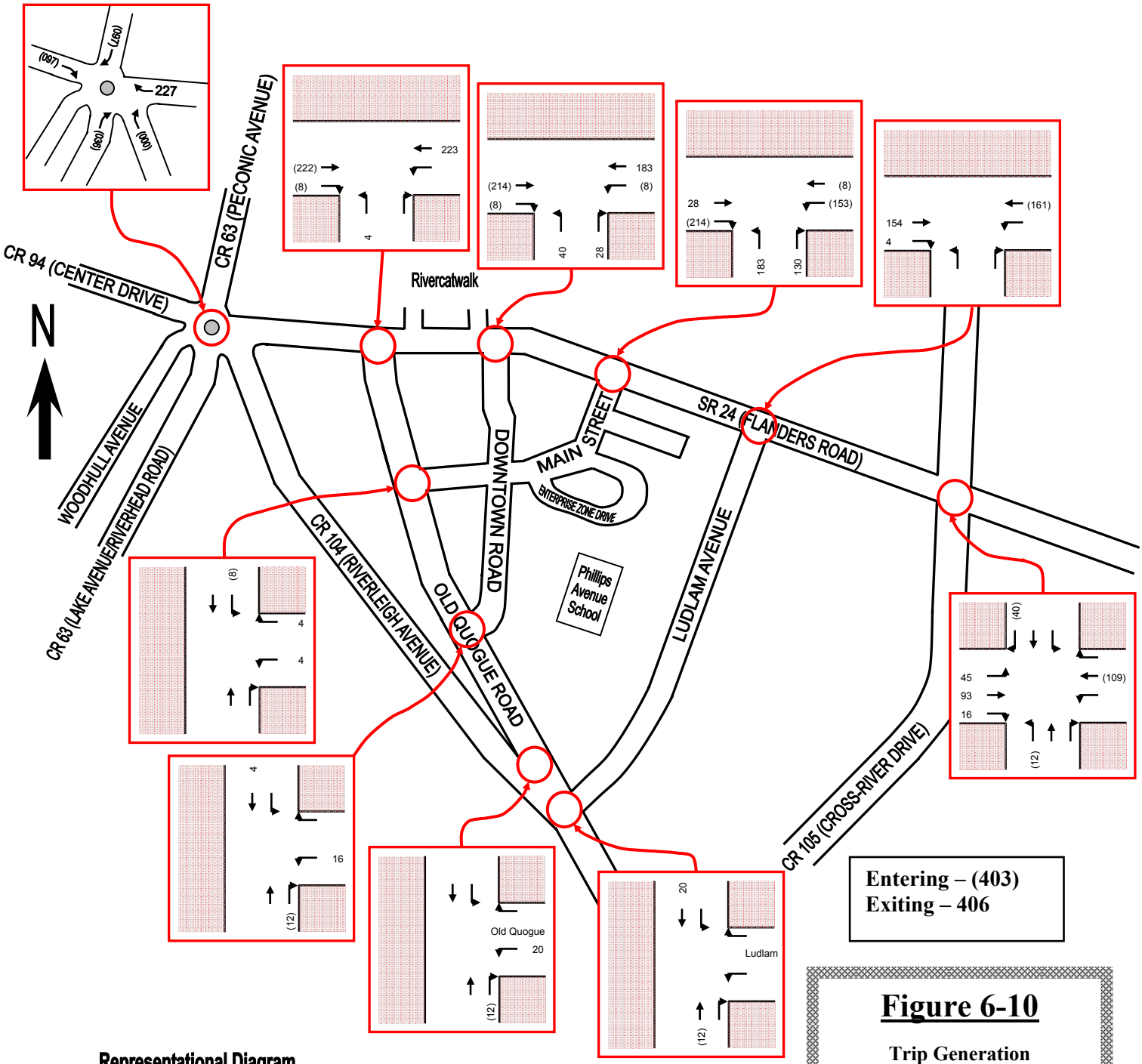
Figure 6-9a

Trip Generation
Traffic Volumes
Proposed "Build" Action

AM Peak Period

TRIP GENERATION TRAFFIC VOLUMES

Riverside M.U.P.D.D. Proposed Action



Entering – (403)
Exiting – 406

Representational Diagram
Not To Scale
Alignment May Be Altered

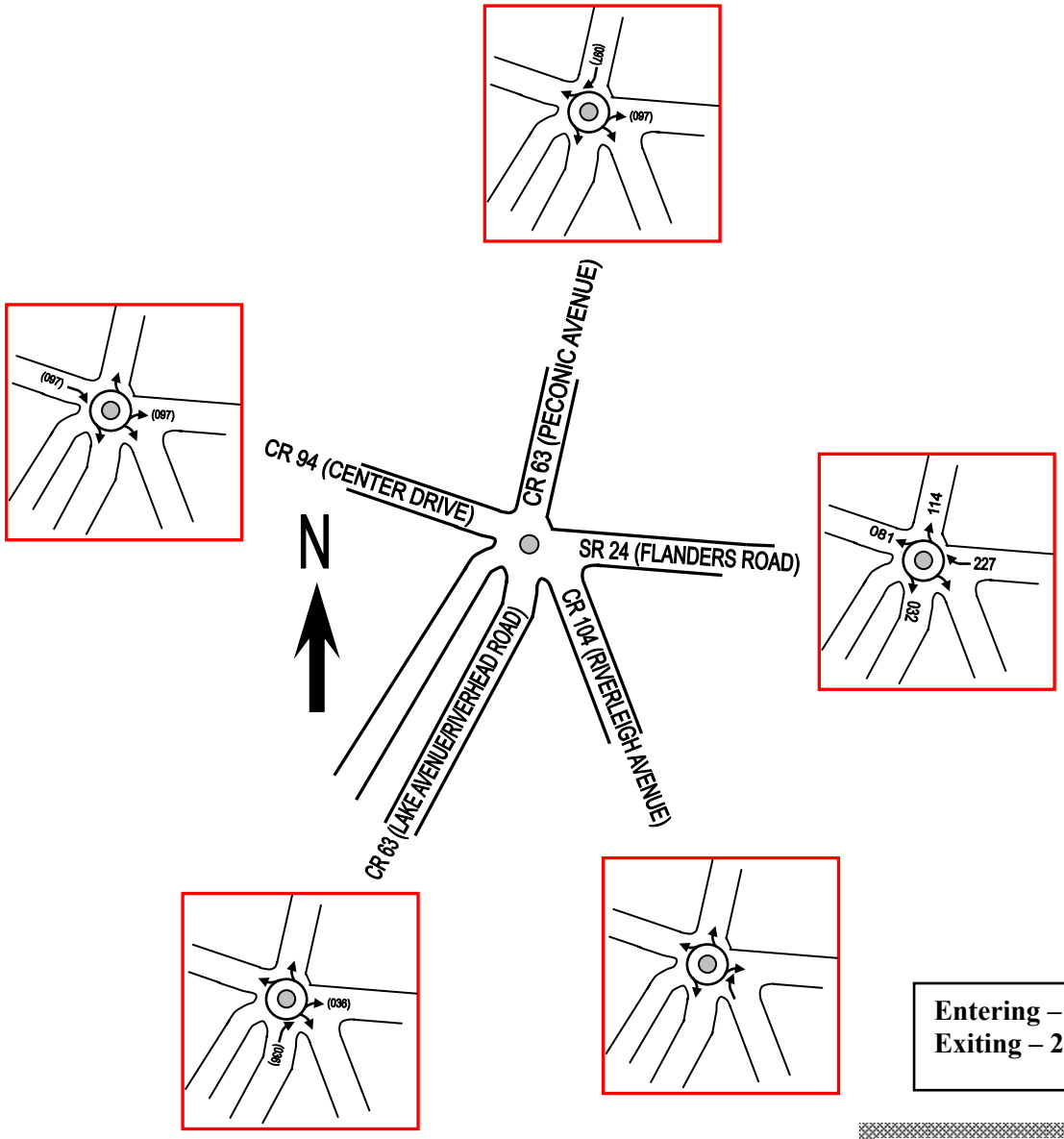
Figure 6-10

Trip Generation
Traffic Volumes
Proposed "Build" Action

Midday Peak Period

TRIP GENERATION TRAFFIC VOLUMES

Riverside M.U.P.D.D. Proposed Action
Traffic Circle Movements



Entering – (230)
Exiting – 227

Representational Diagram
Not To Scale
Alignment May Be Altered

Figure 6-10a

Trip Generation
Traffic Volumes
Proposed "Build" Action

Midday Peak Period

TRIP GENERATION TRAFFIC VOLUMES

Riverside M.U.P.D.D. Proposed Action

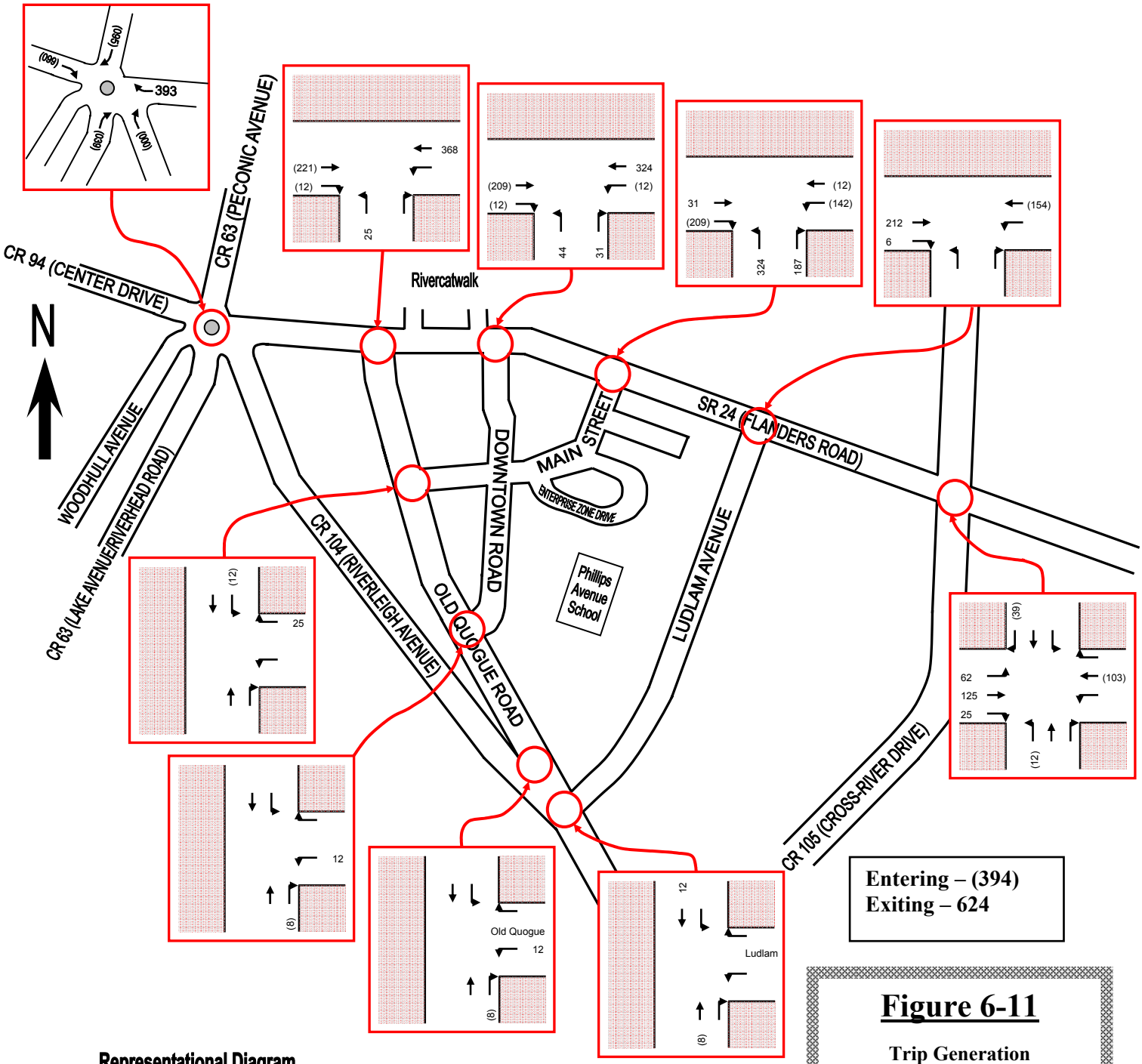


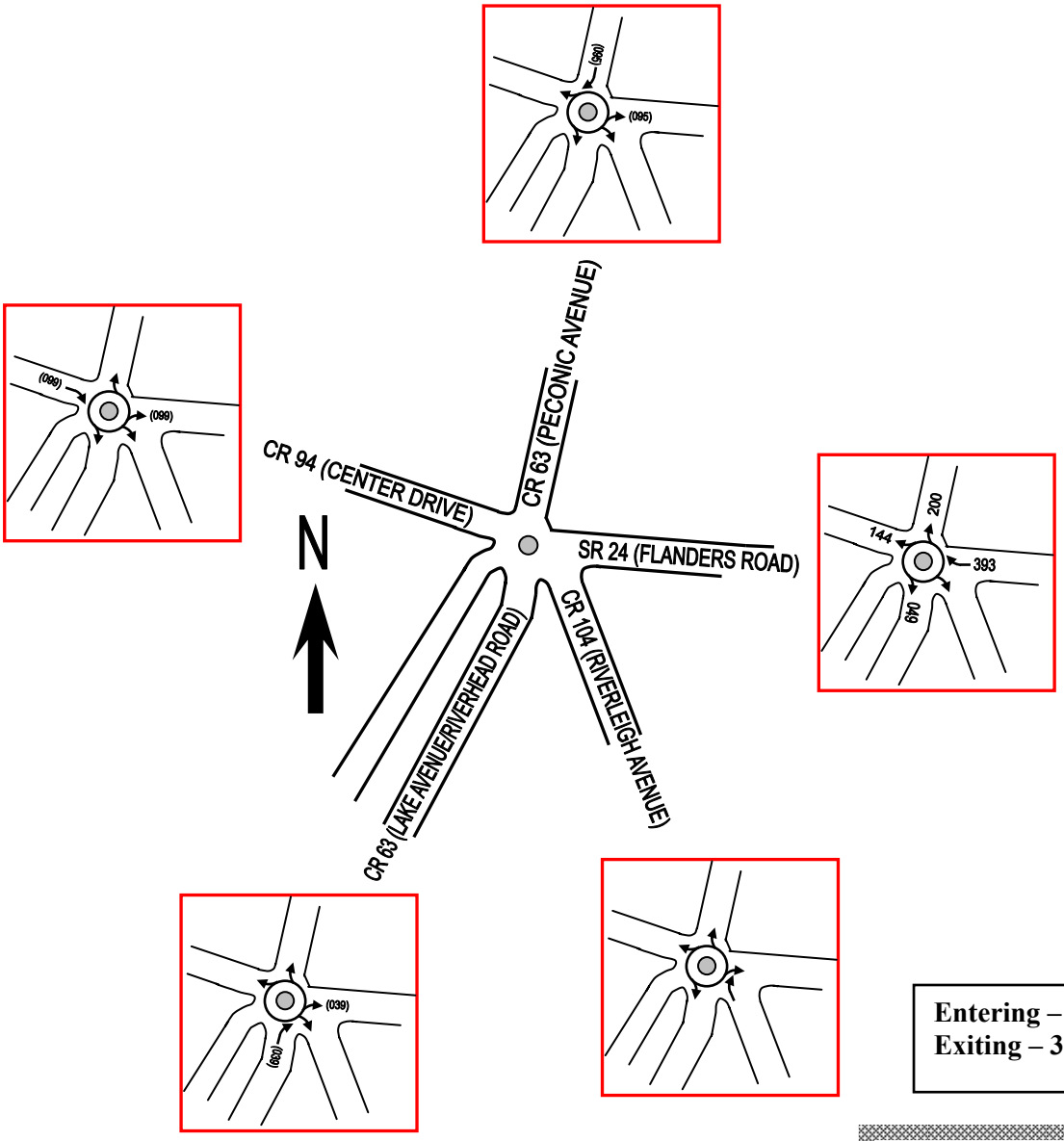
Figure 6-11

Trip Generation
Traffic Volumes
Proposed "Build" Action

PM Peak Period

TRIP GENERATION TRAFFIC VOLUMES

Riverside M.U.P.D.D. Proposed Action
Traffic Circle Movements



Entering – (233)
Exiting – 393

Representational Diagram
Not To Scale
Alignment May Be Altered

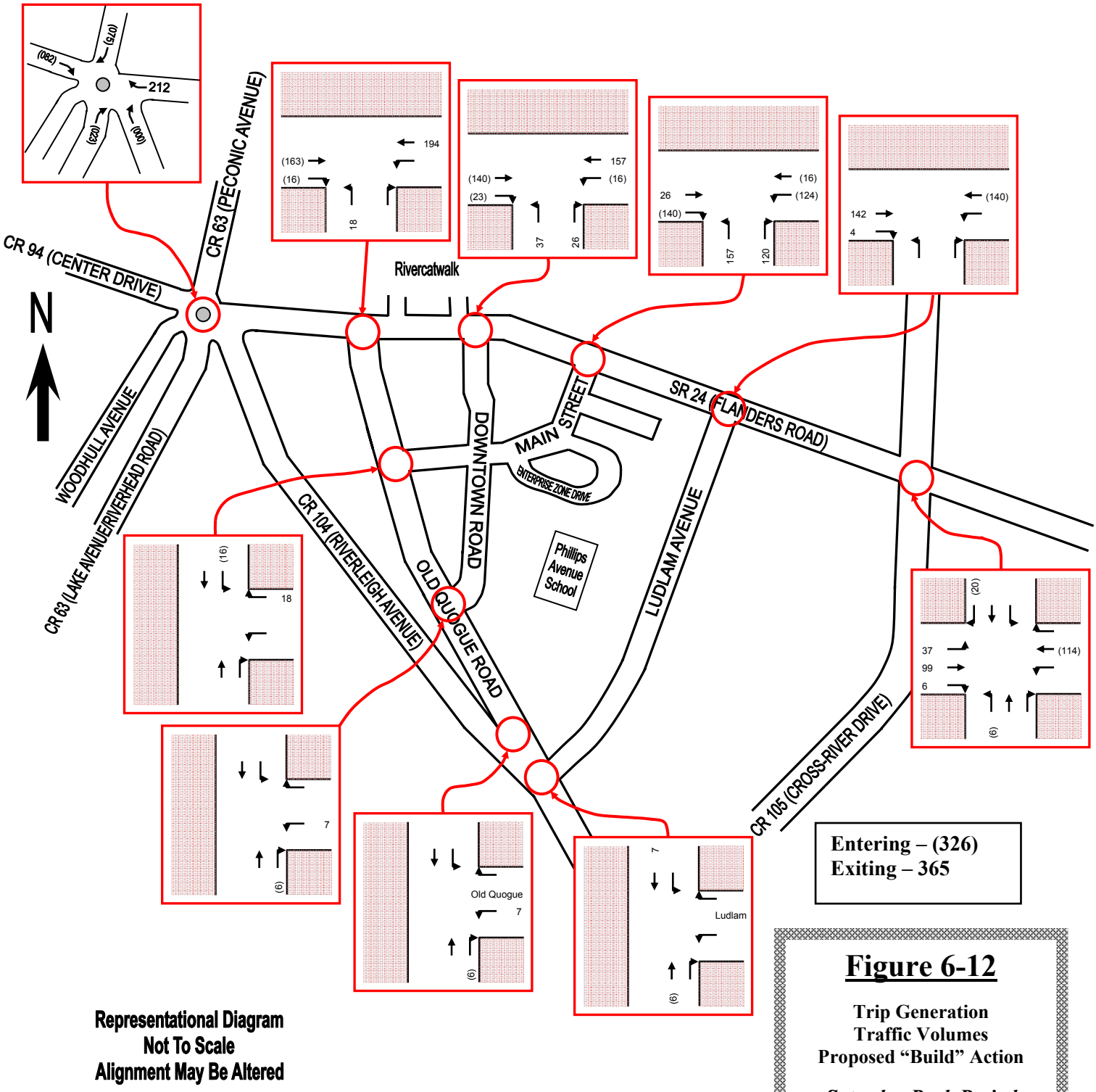
Figure 6-11a

Trip Generation
Traffic Volumes
Proposed "Build" Action

PM Peak Period

TRIP GENERATION TRAFFIC VOLUMES

Riverside M.U.P.D.D. Proposed Action



Entering – (326)
Exiting – 365

Representational Diagram
Not To Scale
Alignment May Be Altered

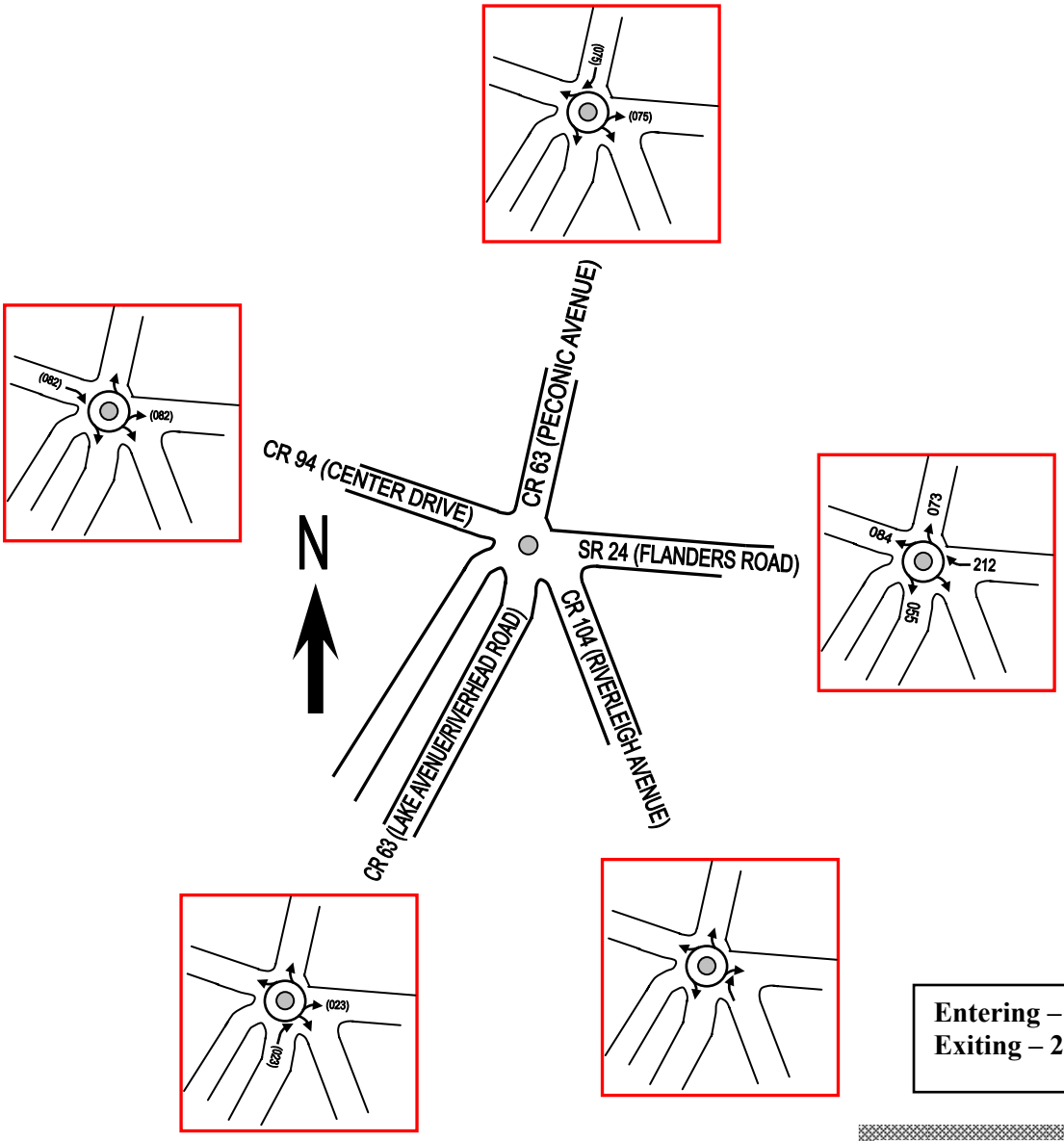
Figure 6-12

Trip Generation
Traffic Volumes
Proposed "Build" Action

Saturday Peak Period

TRIP GENERATION TRAFFIC VOLUMES

Riverside M.U.P.D.D. Proposed Action
Traffic Circle Movements



Entering – (180)
Exiting – 212

Representational Diagram
Not To Scale
Alignment May Be Altered

Figure 6-12a

Trip Generation
Traffic Volumes
Proposed "Build" Action

Saturday Peak Period

6.3 Traffic Volumes and Intersection Capacity (Build Scenario)

Traffic Volumes (Build Scenario)

Trips generated by the Riverside MUPDD project were added to No-Build traffic volumes, and the pass-by trip credits subtracted, to establish the Build condition traffic volumes that will exist upon completion of the project in 2012. The resulting traffic volumes are presented on Figure 6-13 through Figure 6-16.

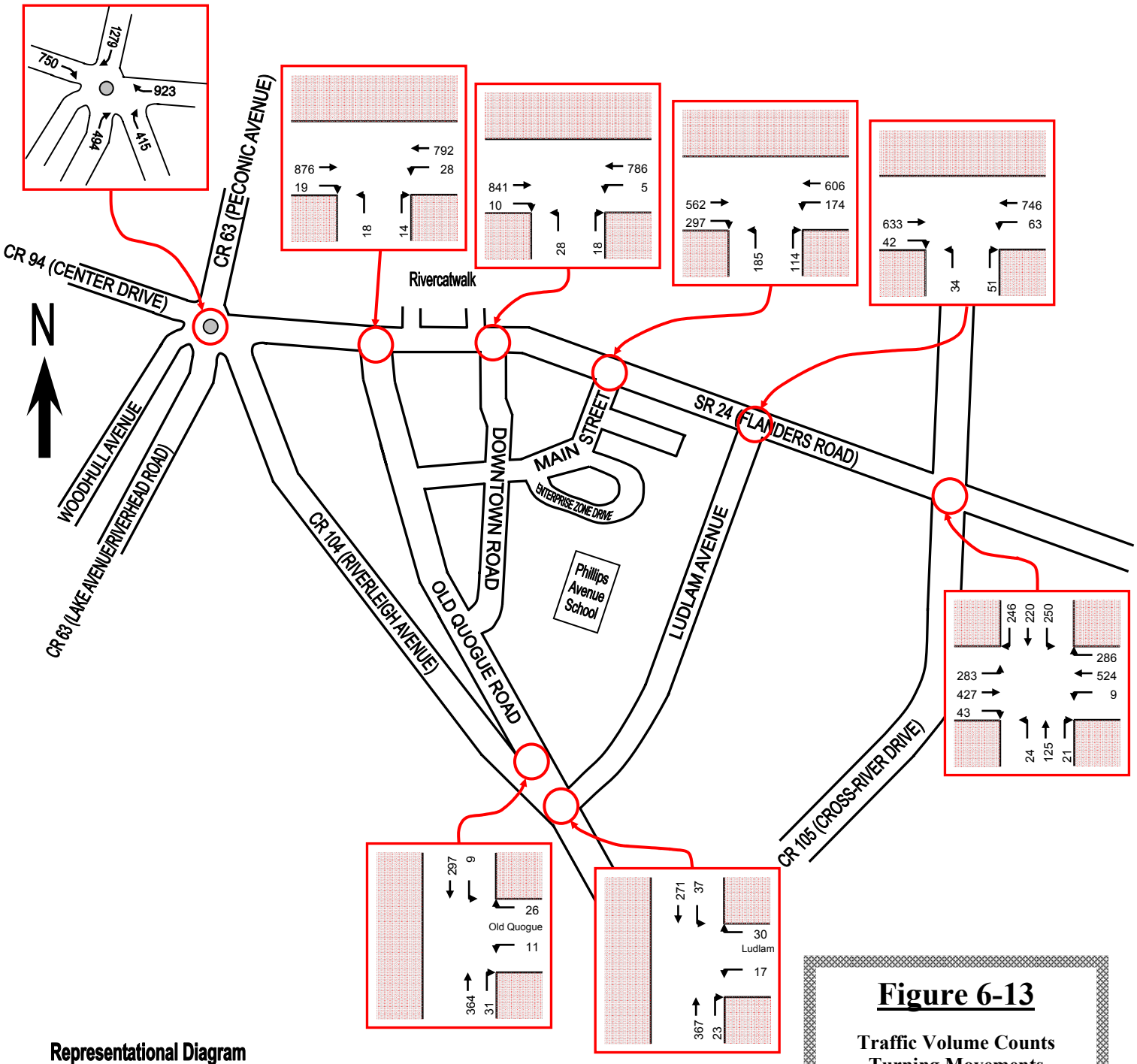
Capacity Analysis and Levels of Service (LOS) for the Build Scenario

Using the methods described in Section 3.2, and in conformance with the procedures described in the *Highway Capacity Manual 2000 (HCM 2000)*, capacity analyses were performed for each of the intersections and for each peak traffic period. The Build capacity analysis results and levels of service are presented on Table 6-3. A composite level of service table is also provided as Table 6-4 to allow a comparison among Existing, No-Build, and Build operational service levels. Additionally, capacity analysis results for individual intersections are provided in Appendix E.

Note that traffic volumes may not add up between study intersections, due to the influences of traffic generated by intermediate intersections, the subtraction of pass-by trip credits, and the application of the annual growth rate. These variables were applied to actual turning movement counts to present the most accurate depiction of traffic volumes that will exist in the year 2012, so they are inclusive of effects that occur away from the non-study intersections.

TRAFFIC VOLUME COUNTS

Riverside M.U.P.D.D. 2012 Build Conditions



Representational Diagram
Not To Scale
Alignment May Be Altered

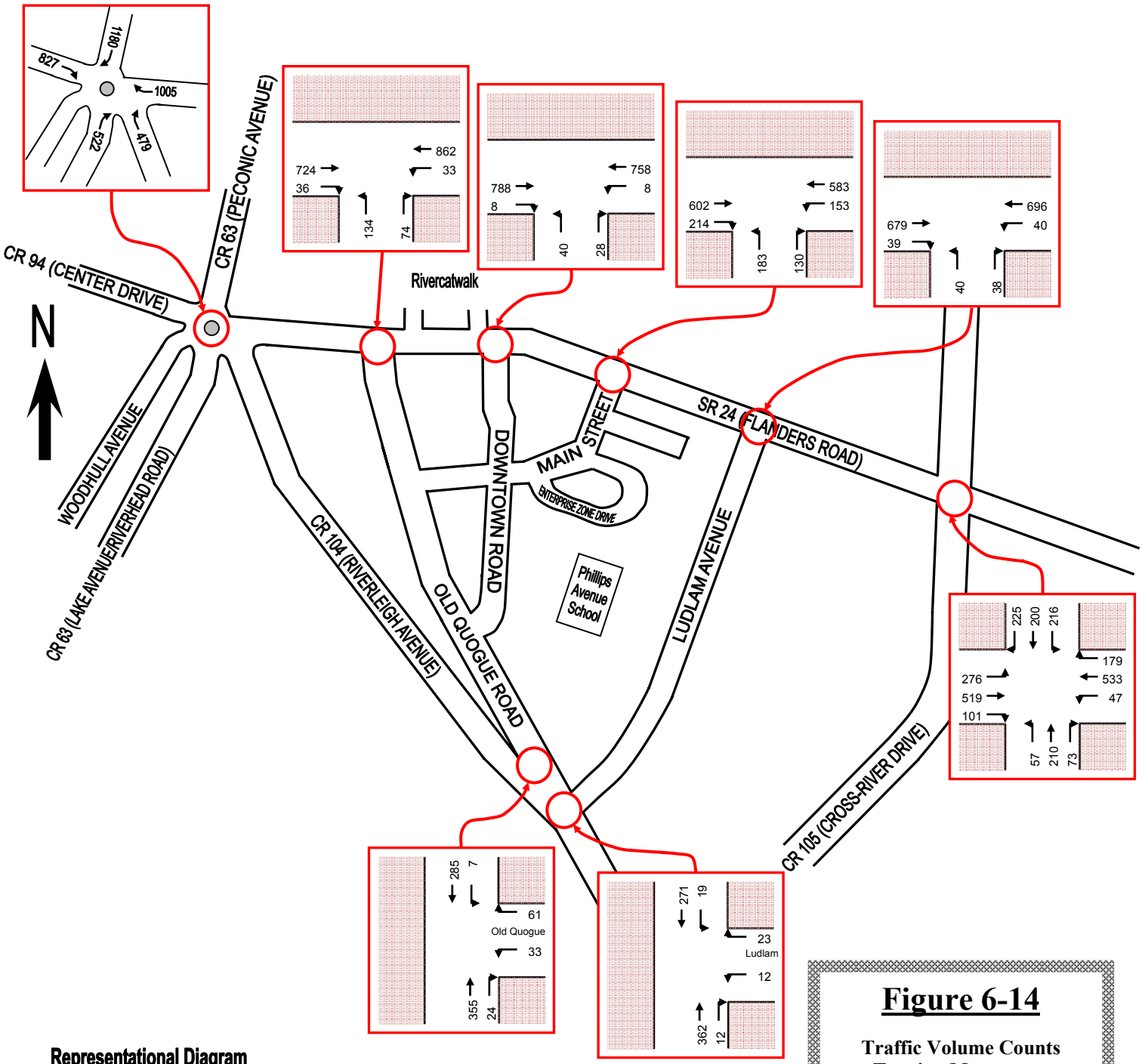
Figure 6-13

Traffic Volume Counts
Turning Movements

Build Conditions
AM Peak Period

TRAFFIC VOLUME COUNTS

Riverside M.U.P.D.D. 2012 Build Conditions



Representational Diagram
Not To Scale
Alignment May Be Altered

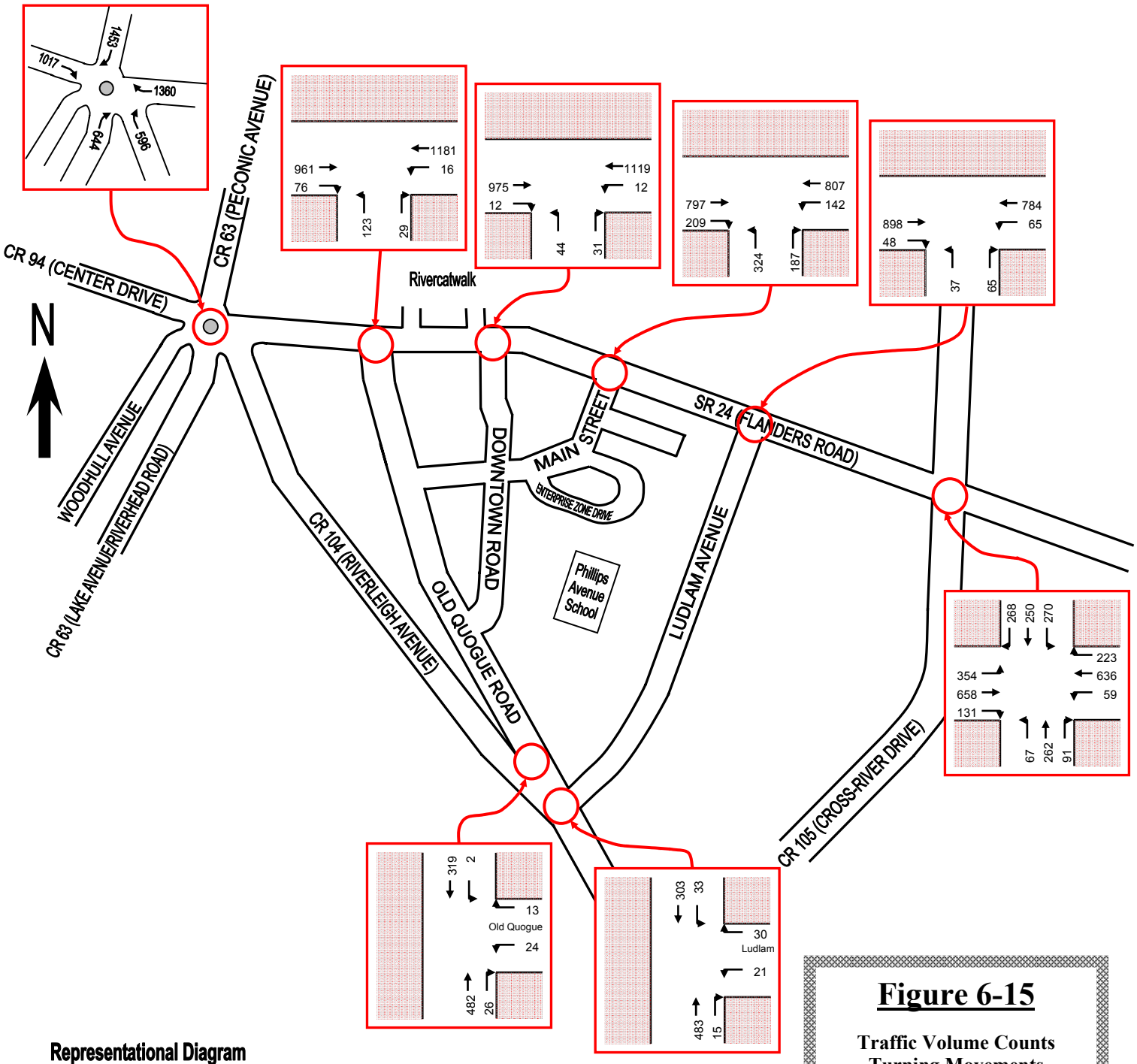
Figure 6-14

Traffic Volume Counts
Turning Movements

Build Conditions
Midday Peak Period

TRAFFIC VOLUME COUNTS

Riverside M.U.P.D.D. 2012 Build Conditions



Representational Diagram
Not To Scale
Alignment May Be Altered

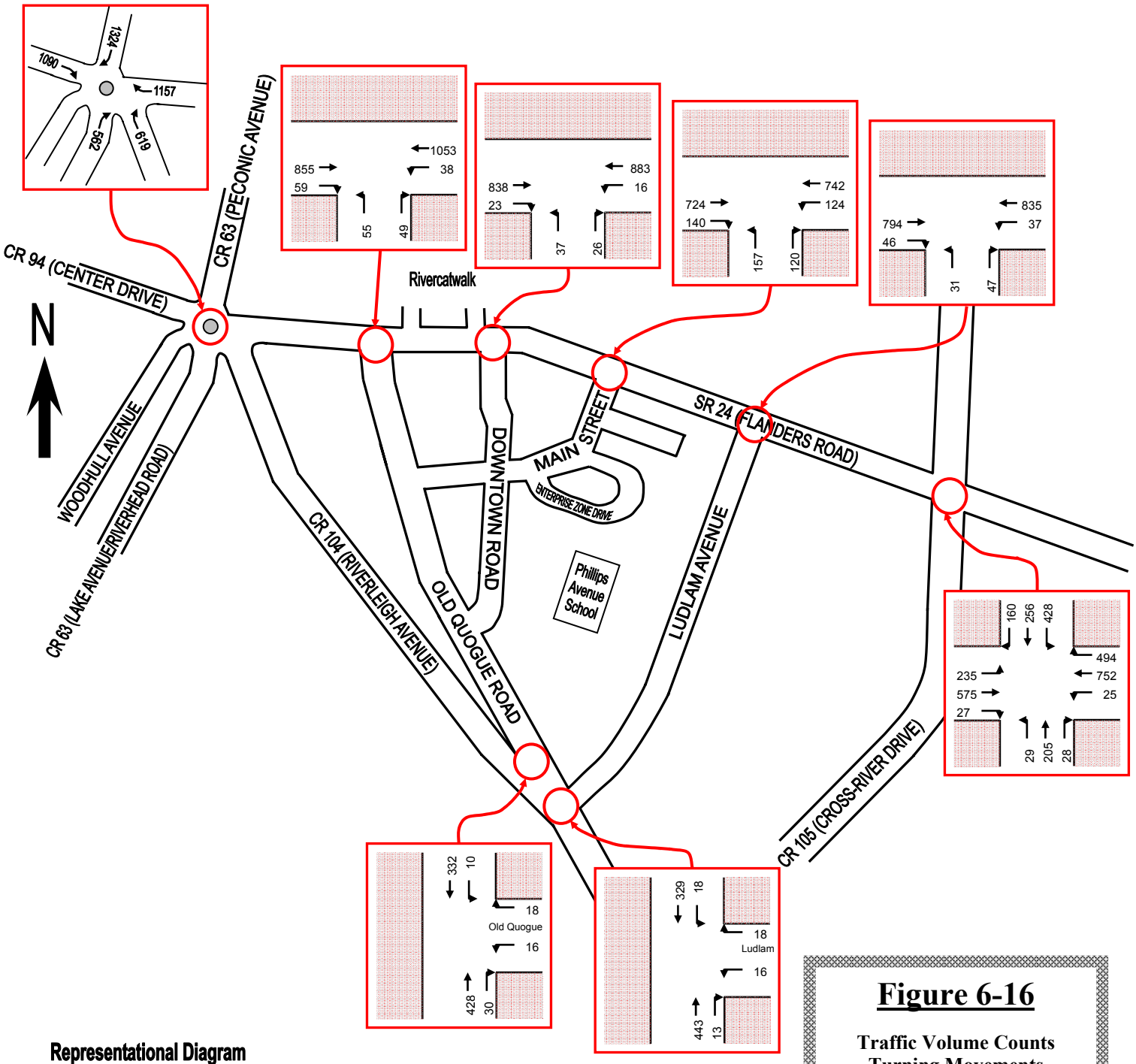
Figure 6-15

Traffic Volume Counts
Turning Movements

Build Conditions
PM Peak Period

TRAFFIC VOLUME COUNTS

Riverside M.U.P.D.D. 2012 Build Conditions



Representational Diagram
Not To Scale
Alignment May Be Altered

Figure 6-16

Traffic Volume Counts
Turning Movements

Build Conditions
Saturday Peak Period

TABLE 6-3: PROPOSED ACTION BUILD INTERSECTIONAL LEVELS OF SERVICE

Riverside MUPDD

Intersection	Control	Movement / Approach	Weekday AM Peak Hour				Weekday Midday Peak Hour				Weekday PM Peak Hour				Saturday Midday Peak Hour			
			Overall	LOS	Delay	v/c	Overall	LOS	Delay	v/c	Overall	LOS	Delay	v/c	Overall	LOS	Delay	v/c
Riverhead Traffic Circle (SR 24, CR 94, CR 104, CR 63, & Peconic Avenue Intersection)	Roundabout Stop Signs	NB CR 63	F	F	347.2	1.64	F	F	979.5	2.96	F	F	1859.3	4.52	F	F	1899.2	3.93
		NWB CR 104		F	338.1	1.58		F	1748.6	3.64		F	2129.9	4.52		F	2009.7	4.26
		WB SR 24		F	290.6	1.60		F	525.2	2.11		F	1458.1	4.17		F	1490.4	4.21
		SB Peconic		F	494.6	2.06		F	475.5	2.02		F	847.6	2.84		F	1360.1	3.96
		EB CR 94		F	243.9	1.49		F	8454.5	19.75		F	12828.6	29.46		F	19063.3	43.27
SR 24 (Flanders Road) at CR 105 (Cross River Drive)	Traffic Signal	EB-L	C	D	52.6	0.92	C	E	59.3	0.95	D	F	94.7	1.06	D	E	66.2	0.93
		EB-T		B	18.5	0.54		C	20.6	0.65		B	17.6	0.67		B	15.6	0.62
		EB-R		B	13.7	0.05		B	14.3	0.14		B	11.0	0.14		A	9.4	0.03
		WB-L		C	20.2	0.03		C	21.8	0.20		C	20.7	0.26		B	17.2	0.09
		WB-T		D	40.2	0.87		D	43.0	0.89		D	35.3	0.84		E	68.8	1.03
		WB-R		C	23.8	0.43		C	22.2	0.27		C	20.5	0.28		C	24.4	0.62
		NB-L		B	19.1	0.08		B	19.4	0.12		C	27.2	0.19		C	32.2	0.13
		NB-T		C	24.6	0.16		C	25.1	0.22		C	34.8	0.36		D	39.8	0.37
		NB-R		C	23.9	0.06		C	24.8	0.17		C	34.5	0.29		D	37.8	0.11
		SB-L		B	18.4	0.33		B	18.5	0.34		C	26.6	0.43		D	41.2	0.74
		SB-T		C	22.8	0.20		C	22.8	0.19		C	32.2	0.32		D	36.5	0.34
		SB-R		C	25.3	0.44		C	25.2	0.43		D	40.3	0.69		D	38.4	0.47
SR 24 (Flanders Road) at Ludlam Avenue	Side Street Stop Sign	WB-L	E	A	9.7	0.09	E	A	9.5	0.05	F	B	11.1	0.10	E	B	10.0	0.05
		NB-LR		E	49.8	0.60		E	36.0	0.45		F	141.6	1.03		E	44.0	0.49
SR 24 (Flanders Road) at Main Street	Side Street Stop Sign	WB-L	F	B	11.6	0.26	F	B	11.0	0.22	F	B	12.4	0.24	F	B	11.0	0.18
		NB-L		F	783.7	2.48		F	662.2	2.22		F	3164.0	7.65		F	848.7	2.58
		NB-R		B	14.7	0.25		C	16.0	0.30		D	28.1	0.58		C	18.7	0.33
SR 24 (Flanders Road) at Downtown Road	Side Street Stop Sign	WB-L	E	A	9.9	0.01	E	A	9.7	0.01	F	B	10.7	0.02	F	B	10.0	0.02
		NB-L		F	63.8	0.33		F	64.8	0.43		F	341.1	1.15		F	100.3	0.54
		NB-R		C	16.5	0.06		C	16.0	0.08		C	20.0	0.12		C	16.8	0.08
SR 24 (Flanders Road) at Old Quogue Road	Side Street Stop Sign	WB-L	F	B	10.3	0.05	F	A	9.8	0.05	F	B	10.6	0.02	F	B	10.8	0.06
		NB-LR		F	52.6	0.34		F	845.2	2.65		F	1599.0	4.14		F	399.9	1.58
CR 104 (Riverleigh Avenue) at Ludlam Avenue	Side Street Stop Sign	SB-L	B	A	8.3	0.03	B	A	8.2	0.02	C	A	8.6	0.04	B	A	8.3	0.02
		WB-LR		B	13.6	0.1		B	12.4	0.07		C	15.3	0.09		B	13.9	0.06
CR 104 (Riverleigh Avenue) at Old Quogue Road	Side Street Stop Sign	SB-L	B	A	8.3	0.01	B	A	8.1	0.01	C	A	8.5	0.00	B	A	8.3	0.01
		SWB-L		C	15.1	0.06		C	16.1	0.18		C	18.8	0.10		C	16.1	0.06
		SWB-R		B	11.9	0.09		B	11.8	0.2		B	11.5	0.03		B	11.3	0.04

LOS = Level of Service
Delay = Delay in Seconds/Vehicle
v/c = Demand Flow (Volume) to Capacity Ratio
NB = Northbound, SB = Southbound
EB = Eastbound, WB = Westbound

L=Left
T=Through
R=Right

TABLE 6-4: COMPOSITE BUILD LEVEL OF SERVICE TABLE

Riverside MUPDD

Intersection	Control	Movement / Approach	Weekday AM Peak Hour						Weekday Midday Peak Hour						Weekday PM Peak Hour						Saturday Midday Peak Hour					
			Existing		No-Build		Build		Existing		No-Build		Build		Existing		No-Build		Build		Existing		No-Build		Build	
			Overall	LOS	Overall	LOS	Overall	LOS	Overall	LOS	Overall	LOS	Overall	LOS	Overall	LOS	Overall	LOS	Overall	LOS	Overall	LOS	Overall	LOS	Overall	LOS
Riverhead Traffic Circle (SR 24, CR 94, CR 104, CR 63, & Peconic Avenue)	Roundabout Stop Signs	NB CR63		D		F		F		D		F		F		F		F		F		C		F		F
		NWB CR 104		D		E		F		F		F		F		F		F		F		E		F		F
		WB SR 24	**F**	D	**F**	F	**F**	F	**F**	F	**F**	F	**F**	F	**F**	F	**F**	F	**F**	F	**F**	F	**F**	F	**F**	F
		SB Peconic		F		F		F		F		F		F		F		F		F		F		F		F
		EB CR 94		D		F		F		F		F		F		F		F		F		F		F		F
SR 24 (Flanders Road) at CR 105 (Cross River Drive)	Traffic Signal	EB-L		B		C		D		B		C		E		C		E		F		C		D		E
		EB-T		B		B		B		B		B		C		B		C		B		B		B		B
		EB-R		B		B		B		B		B		B		B		B		B		B		A		A
		WB-L		C		C		C		C		C		C		C		C		C		B		B		B
		WB-T		C		C		D		C		C		D		C		D		D		D		D		E
		WB-R		C		C		C		C		C		C		C		C		C		C		C		C
		NB-L	**C**	B	**C**	B	**C**	B	**C**	B	**C**	B	**C**	B	**C**	B	**C**	B	**D**	C	**C**	C	**C**	C	**D**	C
		NB-T		C		C		C		C		C		C		C		C		C		C		D		D
		NB-R		C		C		C		C		C		C		C		C		C		C		D		D
		SB-L		B		B		B		B		B		B		B		B		C		C		D		D
		SB-T		C		C		C		C		C		C		C		C		C		C		D		D
		SB-R		C		C		C		C		C		C		C		C		D		C		D		D
SR 24 at Ludlam Avenue	Side Street Stop Signs	WB-L		A		A		A		A		A		A		A		B		B		A		A		B
			C		**D**		**E**		**C**		**C**		**E**		**C**		**E**		**F**		**C**		**D**		**E**	
		NB-LR		C		D		E		C		C		E		C		E		F		C		D		E
SR 24 at Main Street	Side Street Stop Signs	WB-L						B						B						B						B
		NB-L					**F**	F					**F**	F					**F**	F					**F**	F
		NB-R						B						C						D						C
SR 24 at Downtown Road	Side Street Stop Signs	WB-L						A						A						B						B
		NB-L					**E**	F					**E**	F					**F**	F					**F**	F
		NB-R						C						C						C						C
SR 24 (Flanders Road) at Old Quogue Road	Side Street Stop Signs	WB-L		A		A		B		A		A		A		A		A		B		A		A		B
			C		**C**		**F**		**E**		**F**		**F**		**F**		**F**		**F**		**D**		**F**		**F**	
		NB-LR		C		C		F		E		F		F		F		F		F		D		F		F
CR 104 at Ludlam Avenue	Side Street Stop Signs	SB-L		A		A		A		A		A		A		A		A		A		A		A		A
			B		**B**		**B**		**B**		**B**		**B**		**B**		**C**		**C**		**B**		**B**		**B**	
		WB-LR		B		B		B		B		B		B		B		C		C		B		B		B
CR 104 at Old Quogue Road	Side Street Stop Signs	SB-L		A		A		A		A		A		A		A		A		A		A		A		A
		SWB-L	**B**	B	**B**	B	**B**	C	**B**	B	**B**	B	**B**	C	**B**	C	**B**	C	**C**	C	**B**	B	**B**	C	**B**	C
		SWB-R		B		B		B		B		B		B		B		B		B		B		B		B

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6.3.1 Results of Intersection Capacity Analysis (Build Scenario)

The results of the Build condition capacity analysis show that future No-Build traffic volumes combined with traffic generated by the proposed Riverside MUPDD development will cause severe degradations to the levels of service at the Riverhead Traffic Circle and the un-signalized intersections along SR 24 within Riverside. Un-signalized intersections along CR 104 will, however, continue to experience acceptable levels of service.

Riverhead Traffic Circle

The roundabout will maintain its LOS F for all approaches during all peak traffic periods, but delays will increase to intolerable levels. The operational failures at the roundabout will force motorists to seek alternate routes, thereby impacting traffic conditions along other routes that circulate past the roundabout. Mitigation would be mandatory for the roundabout to accept the traffic generated by the MUPDD project.

State Route 24 at Old Quogue Road

Motorists will endure significant delays when attempting northbound left-turns from Old Quogue Road onto SR 24. The intersection will sustain its LOS F condition during the weekday mid-day and evening periods and during the Saturday mid-day period, but the weekday morning peak period will also degrade from a LOS C to a LOS F. Motorists will find it more difficult to acquire gaps in the SR 24 traffic flows and will have to seek alternate routes. Remedial measures will be necessary for the intersection to accommodate the increases in traffic generated by the MUPDD project.

State Route 24 at Downtown Road

This is the westernmost intersection along SR 24 created by the MUPDD project. It will incur an unacceptable LOS E condition during the weekday morning and mid-day peak periods and a worse LOS F during the weekday evening and Saturday mid-day peak periods. The poor levels of service will be caused by an inability to execute northbound left-turns from Downtown Road onto SR 24, due to inadequate gaps in the traffic flows.

The need for some type of mitigation is suggested at the intersection, but the low number of vehicles attempting the northbound left-turn may not be sufficient for NYSDOT to consider implementing typical mitigation measures along SR 24. No mitigation will be required, however, if remedial measures are employed at the intersections of SR 24 at Old Quogue Road and SR 24 at Main Street. The implementation of traffic signals or roundabouts at these intersections that bracket Downtown Road will create gaps in the SR 24 traffic flows that would probably be sufficient to allow motorists to more easily make northbound left-turns from Downtown Road without any significant degree of delay.

State Route 24 at Main Street

This is the easternmost intersection along SR 24 created by the MUPDD project and the primary access and egress point for the site. It will operate at LOS F conditions during all peak traffic periods from its inception, if controlled by a northbound stop sign on Main Street. The need for a more positive traffic control method, such as a traffic signal or roundabout, is evident. Traffic volumes in all directions support the need for one of these types of control and the intersection will meet warranting requirements for their implementation.

State Route 24 at Ludlam Avenue

The intersection will experience degraded traffic conditions during all peak periods, dropping one (1) level-of-service grade during the morning, evening, and Saturday periods and two (2) grades during the mid-day period. Still, the intersection will receive a LOS F only during the evening peak traffic period, with the other periods operating at LOS E. While all these levels of service are unacceptable, the need to employ mitigation measures is questionable, due to the low amount of side street traffic. Like the intersection of SR 24 and Downtown Road, the intersection of SR 24 and Ludlam Avenue will derive benefits from the installation of a traffic signal or roundabout at SR 24 and Main Street. Gaps created in the SR 24 traffic flows would be adequate for motorists to make turns from Ludlam Avenue, so no additional action would be required.

State Route 24 at County Road 105

The intersection will have a service decline to LOS D during the evening and Saturday peak traffic periods, but will continue to operate at a LOS C during the morning and mid-day periods. While motorists will encounter slightly increased delays, they will generally be imperceptible. Both LOS C and LOS D are also considered to be acceptable operating conditions, especially for the intersection of a state arterial highway with a county arterial. No changes to the signal operation or intersection design will be necessary to accommodate traffic generated by the MUPDD project.

County Road 104 at Ludlam Avenue

Levels of service will remain as they will exist during future No-Build conditions, indicating that traffic impacts from the MUPDD project on the intersection will be minimal. While motorists may experience increased delays when making left-turns from Ludlam Avenue onto CR 104 than currently exists, the increased delays will barely be noticeable. No mitigation is required for the intersection to accept any additional traffic flows from the MUPDD site.

County Road 104 at Old Quogue Road

The intersection will experience a slight increase in delay, to a LOS C, during the evening peak traffic period, but will maintain its current LOS B during all other peak traffic periods. Both service levels are acceptable and the increased delays will be minimal. No remedial actions or intersection modifications will be necessary.

6.4 Conclusions on Future Traffic Conditions

Development of the proposed Riverside MUPDD project will have a significant impact on traffic conditions within the Riverside Hamlet area and cause severe degradations to the levels of service at local intersections, particularly at the Riverhead Traffic Circle and at intersections along NYS Route 24. Poor levels of service exist at the traffic circle and the delays encountered will be exacerbated by both future ambient traffic conditions and

the traffic volumes generated by the Rivercatwalk project and the Riverside MUPDD project. Reduced levels of service at other intersections are directly attributable to the combined impacts of both of these projects. Ultimately, mitigation measures will need to be implemented at some intersections for the intersections to accommodate traffic volumes from the MUPDD project. The findings are as follows:

1. Although the Riverhead Traffic Circle currently operates at an unacceptable LOS F during all peak traffic periods, the additional traffic volumes generated by the Riverside MUPDD project will make delays on the approaches to the roundabout interminable. Motorists will be forced to seek alternate routes to bypass the traffic circle, thereby creating potential traffic problems on parallel streets and other alternate routes. Extensive mitigation will be necessary for the Riverhead Traffic Circle to accommodate traffic generated by the proposed action.

2. The intersection of SR 24 and Old Quogue Road will sustain serious degradations in levels of service and substantial increases in delays as a result of the combined impacts of the Rivercatwalk project and the Riverside MUPDD project. Mitigation, likely in the form of a traffic signal or a roundabout, will need to be implemented for the intersection to successfully accept the increased traffic flows.

3. The primary intersection created by the MUPDD project will be the intersection of SR 24 and Main Street. The intersection will have to be controlled with either a traffic signal or a roundabout to improve upon the LOS F operational conditions that will exist upon its creation.

4. The secondary intersection created by the MUPDD project will be the intersection of SR 24 and Downtown Road. The intersection will have poor levels of service, but they may not have to be mitigated if remedial measures are employed at the intersection of SR 24 and Old Quogue Road and the intersection of SR 24 and Main Street. The measures implemented at these intersections will create gaps in the SR 24 traffic flows at Downtown Road that should be sufficient to improve

conditions at the intersection and reduce left-turn delays to a degree that would result in acceptable operational levels. Under these conditions, a stop sign on the northbound Downtown Road approach to SR 24 would be all that is required to satisfactorily control traffic at the intersection.

5. The intersection of SR 24 and Ludlam Avenue will endure significant declines in levels of service during the peak traffic periods, oscillating between near-failing and failing conditions. Like the intersection of SR 24 and Downtown Road, however, the intersection will derive benefits from the installation of either a traffic signal or roundabout at the intersection of SR 24 and Main Street. If this is done, the resulting gaps in the SR 24 traffic flows will likely be sufficient at Ludlam Avenue so that no mitigation will be necessary.

6. The intersection of SR 24 and CR 105 will sustain slight delays on the approaches to the intersection as a result of trips generated by the MUPDD project, but levels of service will remain acceptable. Any delays are likely to be imperceptible to motorists. The volume-density operation of the traffic signal that currently exists at the intersection will respond well to any traffic increases from the MUPDD project, so no mitigation will be necessary.

7. Analyses of the intersection of CR 104 and Old Quogue Road/Ludlam Avenue treated the intersection as two (2) separate intersections, CR 104 at Old Quogue Road and CR 104 and Ludlam Avenue. Together or independently, both intersections operated at good levels of service with the introduction of traffic generated by the MUPDD project. Neither intersection will require mitigation.